C011 & M024: TACTICAL CONSIDERATIONS FOR COLD WEATHER AND MOUNTAIN ENVIRONMENTS

TSP Number/Title	C011 & M024: Tactical Considerations for Cold Weather and Mountain Environments
Effective Date	Implement next class iteration upon receipt
Supersedes TSP(s)/Lessons	None
TSP User	The following courses use this TSP: Cold Weather Instructor Qualification Course (CWIQC) Mountain Instructor Qualification Course (MIQC) Command and Staff Orientation Course (CSOC) Cold Weather Leaders Course (CWLC) Basic Mountaineering Course (BMC) Assault Climber Course (ACC)
Proponent	United States Army Alaska, Northern Warfare Training Center
Improvement Comments	Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: ATTN: TRAINING ADMINISTRATOR COMMANDANT USARAK NWTC 1060 GAFFNEY ROAD #9900 FORT WAINWRIGHT AK 99703-9900
Security Clearance/Access	Public domain
Foreign Disclosure Restrictions	The Lesson Developer in coordination with the USARAK NWTC foreign disclosure authority has reviewed this lesson. This lesson is releasable to foreign military students from all requesting foreign countries with Approval of Commandant USARAK NWTC.

PREFACE

Purpose

This training support package provides the instructor with a standardized lesson plan for presenting instruction for:

Task Number	Task Title
VII.0200	Tactical Considerations for Cold Weather and Mountain Operations

Technique of Delivery

Lesson Number	Instructional Strategy	Media
C011 & M024	Classroom Presentation	Slides

This TSP contains

SECTION I **ADMINISTRATIVE DATA**

All courses including this lesson

Course Number	Course Title
NA	Cold Weather Instructor Qualification Course
NA	Cold Weather Leaders Course
NA	Command and Staff Orientation Course
NA	Mountain Instructor Qualification Course
NA	Basic Mountaineering Course
NA	Assault Climber Course

Task(s) Taught or Supported

Task Number	Task Title
	Tactical Considerations for Cold Weather and Mountain Environments

Task(s) Reinforced

Task Number	Task Title
NA	NA

Test Lesson Number

Hours	Lesson Number	Lesson Title
1	C020	CWLC Review

Prerequisite Lesson(s) None

References Listed on last slides

Student Study Assignment	Read C011 & M024 and any students handouts
Instructor Requirements	NWTC Commandant, training officer, or executive officer familiar with campaigns used and case studies discussed.
Additional Support Personnel Requirements	One assistant to run the proxima
Equipment Required	None
Materials Required	Instructor Materials: • NWTC Mountain Operations Manual • Risk Management for Mountain Operations Student Materials: • NWTC Mountain Operations Manual • Risk Management Guide for Mountain Operations
Classroom, Training Area and Range Requirements	One classroom large enough for 75 students and instructor.
Ammunition Requirements	None.
Instructional Guidance	To present a quality class, instructor must be familiar with campaigns and wars used to determine historical cold weather and mountainous terrain trends. Read books suggested at end of slide presentation.

SECTION II **INTRODUCTION**

Method of instruction: Large Group
Type of instruction: Class
Instructor to student ratio: 1:48
Time of instruction: 1 Hour
Media used: Computer and proxima

Motivator

Climate is a dynamic force; it can often be the key to successful military operations. He who recognizes and respects this force can overcome it; he who disregards or underestimates it is threatened with failure or destruction.

Terminal Learning Objective

Action:	Describe tactical considerations for cold weather and mountain operations
Condition:	In a classroom environment
Standard:	Describe tactical considerations for cold weather and mountain operations IAW the NWTC Mountain or Cold Weather Operations Handbook, FM 3-97.6, FM 3-97.61 and the references listed in this presentation.

Safety Requirements

None

Risk Assessment Level

Low

Environmental Considerations

None

Evaluation

You will be evaluated on the information presented in this class during the written test as per the NWTC training schedule for this course.

Instructional Lead-in

(Slide 1) Successful combat in the cold weather and mountainous environment requires the leader to consider a number of significant additional factors. While basic tactical and doctrinal concepts do not change, it is essential that leaders accustomed to operations in temperate environments understand that operations in cold weather and mountain environments can differ greatly from their previous experience. Major differences include: reduced ground mobility for vehicles and dismounted troops, slower tempo of operations, increased need for logistical support, and fighting the weather as much or more than the enemy. A unit with leaders who do not appreciate the differences between cold/mountain and temperate environments and therefore do not alter their planning, assumptions, and expectations WILL FAIL.

(Slide 2) For the next hour we will be looking at historical trends of combat in cold weather and mountain environments. This class is intended to provide information for leaders to consider when planning training and combat operations.

Outline

- ***Cold Weather Environments***
  - ***Case Studies***
  - ***Trends***
- ***Mountain Environments***
  - ***Case Study***
  - ***Trends***
- ***Overall Trends***

SECTION III **PRESENTATION**

ELO A

ACTION	Describe the effects of cold weather on military operations
CONDITION	In a classroom environment
STANDARD	Describe the effects of cold weather on military operations IAW the NWTC Mountain or Cold Weather Operations Manual.

(Slide 3) You have already seen some of the terrain and weather characteristics of cold weather environments. We will now take a look at some these characteristics from a military standpoint, using OCOKA (Observation and Fields of Fire, Cover and concealment, Obstacles, Key Terrain, Avenues of Approach).

Learning Step/Activity 1 – Observation, Fields of Fire

a. (Slide 4) There are generally three recognized cold regions in the world, arctic, sub-arctic and temperate; mountainous regions are present in all of these regions and have special considerations. Because most people are familiar with operations in temperate climates, we will focus on the arctic and sub-arctic regions with respect to OCOKA. Arctic terrain is characterized by year-round permafrost that in the summer results in wet open ground known as tundra. Sub-arctic terrain is terrain characterized by intermittent permafrost and often thick forestation.

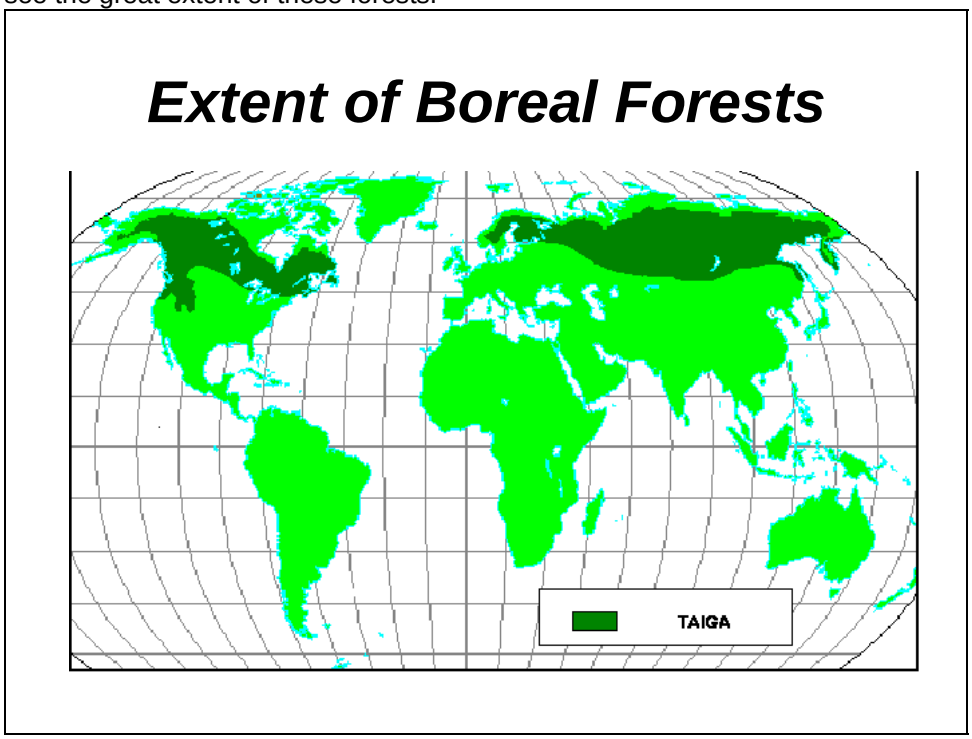
Observation/Fields of Fire, Cold Weather

- ***Observation / Fields of Fire***
  - ***Arctic (tundra)***
    - ***Tundra - Generally very open and unrestricted***
  - ***Sub-Arctic (forested)***
    - ***Generally restricted***

b. (Slide 5) Here is an example of arctic tundra from Siberia. Note the excellent observation, lack of vegetation, and swampy ground. Fields of fire are excellent, though range estimation may be difficult in featureless tundra.

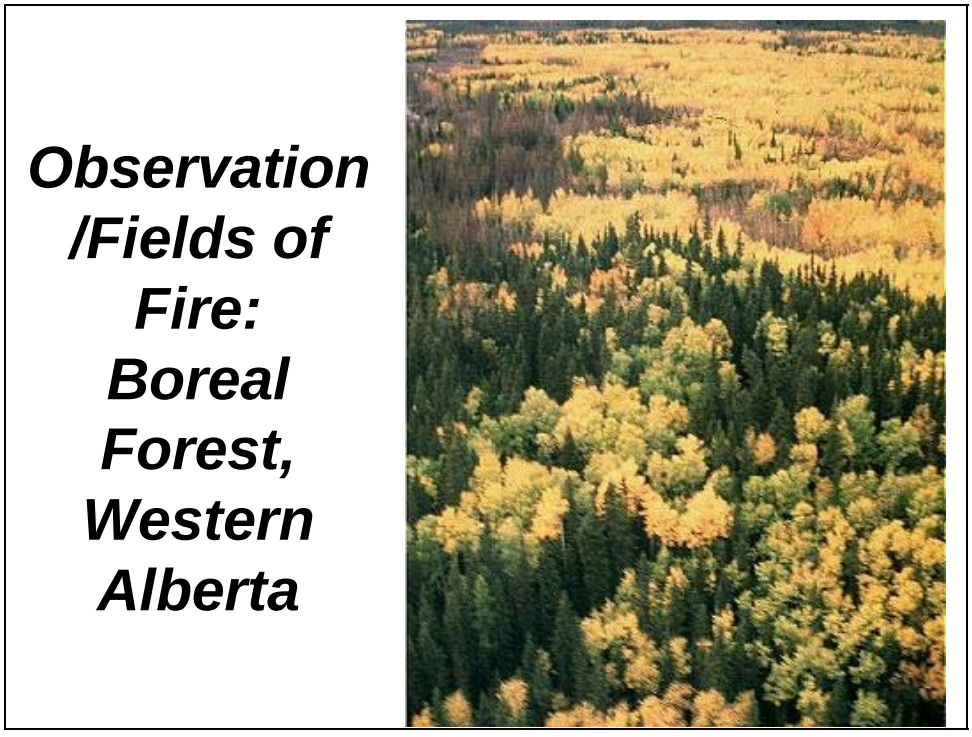
Observation/Fields of Fire: Siberian Tundra

c. (Slide 6) Boreal forests (also known as taiga) are the forests of the sub-arctic and some portions of the arctic. Boreal forests are characterized by dense growths of trees and under-brush. You can see the great extent of these forests.



d. (Slide 7) The type of trees growing often indicates ground conditions. In the sub-arctic, deciduous trees often grow on ground free from permafrost and can indicate more open and more trafficable terrain. Coniferous trees often grow over ground with permafrost and can indicate very dense growths of trees with intermittent small bodies of water and marshy ground.

Here you can see the dividing line between the two types of trees. This contrast is evident in many of Alaska's training areas. These areas will significantly restrict observation and fields of fire.



Learning Step/Activity 2 – Cover and Concealment

a. (Slide 8) Cover from small arms fire, high explosive ordinance, and anti-tank rounds is limited to cover provided by the terrain itself in cold weather environments. The forests of much of the sub-arctic are made up of trees too small to provide cover themselves.

b. Concealment is good in the sub-arctic with its thick forests but almost non-existent in the arctic with its lack of vegetation. In both regions tracks left in snow are very hard to conceal. Intra-visibility lines may be used for concealment in the arctic

Cover and Concealment, Cold Weather

- ***Cover and Concealment***
  - ***Arctic***
    - ***little cover, less concealment***
    - ***tracks left in snow make concealment difficult***
  - ***Sub-Arctic***
    - ***similar to temperate regions***
    - ***limited cover – small trees***
    - ***good concealment***

c. (Slide 9) Note the open nature of the terrain and the bodies of water. Again note the lack of tall vegetation and the bodies of water. You can see that the terrain itself provides limited cover and some concealment.

Cover and Concealment: Siberian Tundra

d. (Slide 10) An example of boreal forest found in the sub-arctic. This photo is from Labrador, on the north eastern corner of the Canadian mainland. The ground is made up of a white moss. Note how small the trees are and the soft, un-trafficable ground.

Cover and Concealment: Boreal Forest, Labrador, Canada

Learning Step/Activity 3 - Obstacles

a. (Slide 11) Both Tundra and Forested regions have significant obstacles to movement. Deep snow dominates operations in wintertime. In summer time thick forests in the sub-arctic and wet ground in both the arctic and sub-arctic are significant obstacles to all movement. Arctic and sub-arctic regions around the world generally have little to no infrastructure as compared to other regions of the world and therefore have a sparse to non-existent road network.

Obstacles, Cold Weather

- ***Obstacles***
  - ***Arctic and Sub-Arctic***
    - ***Deep snow a significant obstacle to vehicular and non-ski / snowshoe equipped dismounted movement. Most terrain is no go terrain to vehicular movement.***
  - ***Arctic***
    - ***swampy ground makes for very difficult movement even for dismounted troops***

b. (Slide 12) This is typical of the arctic and sub-arctic regions during the winter months. Note deep snow and lack of roads.

Obstacles: Northern Finland

c. (Slide 13) Again, note the small trees and the dense nature of the forest. The man standing illustrates the difficulties of movement on this terrain. The ground is made up of small clumps of grass known as tussocks or “baby-heads” that are too unstable to stand on with water in between. The man likely is standing on one foot in the water between tussocks with one foot resting on a tussock.

Obstacles: Northwest Territories

Learning Step/Activity 4 - Key terrain

a. (Slide 14) Roads and shelter are by far the two dominating factors of OCOKA in cold weather operations. Any road network is by far THE key terrain.

Key Terrain, Cold Weather

- ***Key Terrain***
  - ***Roads – Any road network is by far THE key terrain***
  - ***Shelter – Greatly adds to survivability and combat effectiveness.***

Learning Step/Activity 5 – Avenues of Approach

a. (Slide 15) Avenues of approach in the arctic and sub-arctic are very limited. The only avenues of approach for vehicles are man-made roads and, when ice is thick enough, bodies of water cleared of snow.
Dismounted troops can move on trails. Movement in snow by dismounted troops is very slow and exhausting. Avenues of approach for ski and snowshoe equipped troops are nearly unlimited; this is dependent upon the level of training with this equipment.

Avenues of Approach, Cold Weather

- ***Avenues of Approach***
  - ***Mounted***
    - ***Man made roads or cleared paths on frozen bodies of water***
  - ***Dismounted***
    - ***Roads, trails and very slow movement in snow***
  - ***Ski/Snowshoe equipped troops***
    - ***Unrestricted***

b. (Slide 16) Again, note the open nature of the arctic terrain. Deep snow will severely hamper vehicular and non-ski or snowshoe equipped dismounted troops.

Avenues of Approach: Nunuvat, Canada

c. (Slide 17) Note the thickness of the trees on either side of the cleared area. Although the trees are small, their close proximity to each other makes movement similar to movement through thick underbrush or vines with often frustrating slow progress and navigation difficulties. Although the track in the middle of the picture appears to be an over-grown small road, in fact it is most likely untrafficable to all vehicles except ATV's and SUSV's. The ground on the track will be soft and spongy with intermittent large, deep puddles and small ponds.

Avenues of Approach: Boreal Forest

d. (Slide 18) During summer months, rivers are often excellent avenues of approach for those equipped for riverine operations.

Avenues of Approach: Boreal Forest

(Slide 19) After freeze up, rivers can again provide a high speed avenue of approach for units equipped with vehicles such as snow machines or SUSVs and units that are ski/snowshoe equipped.

Avenues of Approach: Boreal Forest

ELO B

ACTION	Discuss the Battle of Suomossalmi and the Petsamo-Kirkenes campaign
CONDITION	In a classroom environment
STANDARD	Discuss the Battle of Suomossalmi IAW the NWTC Mountain or Cold Weather Operations Handbook.

Learning Step/Activity 1 - Battle of Suomossalmi.

a. In December 1939 the USSR invaded Finland in an attempt to secure territory and its northern flank. The key to the plan was early collapse of the Finnish government and support of the Finn people. The operation was very poorly planned. Units used were second rate, unsuited and ill-equipped for fighting in the cold weather.

Finland's southern border with the Soviet Union is covered by lakes, which serve to canalize east-west movement. Farther north is wilderness with thick forests and sparse, narrow roads.

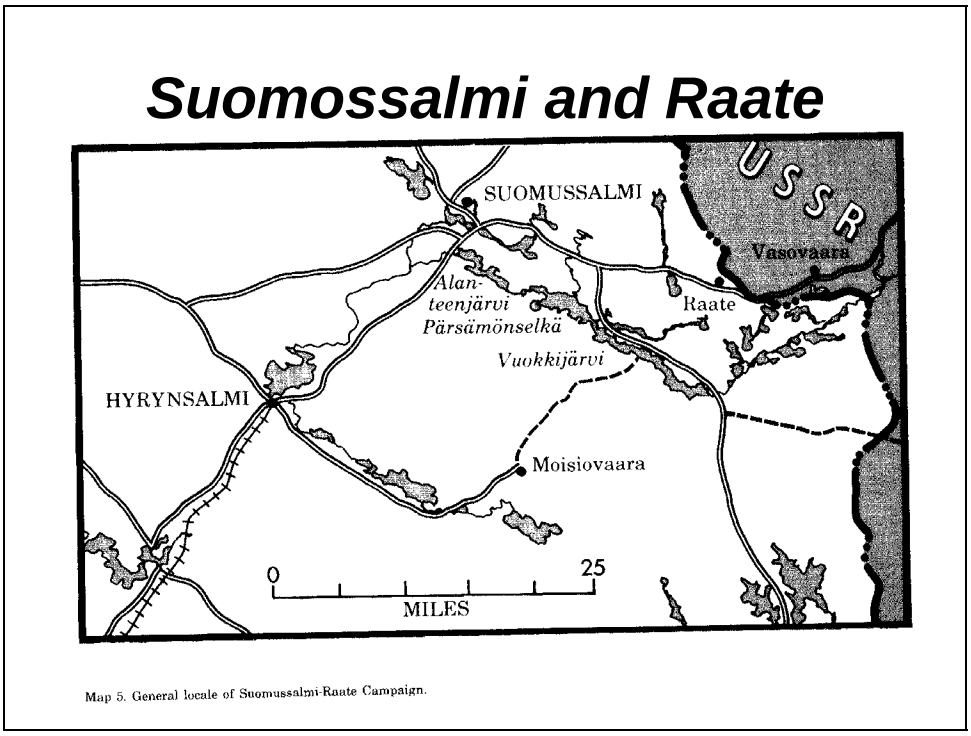
The USSR attack towards the town of Suomossalmi intended on cutting Finland in two. The two Soviet divisions participating in the attack were motorized, poorly equipped for the cold, and road-bound. In contrast, the Finnish reservists who opposed them came largely from logging, hunting, and woods-related professions. The Finnish soldiers were very adept at skiing, cold weather survival, and navigation in the woods.

Suomussalmi

Finnish victory on the Raate Road
December 1939

b. A macro look at the area of operations.

c. Orient to AO.



Map 5. General locale of Suomussalmi-Raate Campaign.

d. Decentralized Finn units attacks quickly halted both Soviet divisions and soon split the units into many pockets along the Raate road, which could not maneuver, support each other, or be re-supplied. The Finn units moved quickly, undetected, and at will on skis parallel to the road to conduct attacks to further cut up the Soviet divisions and destroy pockets. In less than a week the Finns destroyed both divisions.

Hallmarks of the battle were Finish mobility on skis and aggression paired with road bound Soviet army that suffered horrendous casualties from the cold.

Battle of Suomussalmi

- ***Deep snow and thick forest – contrasted Finns and Soviets***
  - ***Finns very mobile***
    - ***Soldiers all competent skiers***
    - ***Built ice roads along Raate road***
    - ***created "mottis" at will by violently attacking road out of forests***
    - ***Reports of Finns skiing up to 20-30 km a night***
  - ***Soviets were not***
    - ***No snowshoes, few skis, no training – difficult movement in deep snow***
    - ***Feared the forest and the Finnish "White Death"***
    - ***Motorized army fixed to Raate road***

e. Finnish troops on the Raate road. Note over-white camouflage and the dense forest that comes right up to the road.

Forest Road in Finland

f. Again note the total lack of observation into the forest from the road.

Forest Road in Finland

g. After a Finn ambush on the Raate Road. This scene was played out many times, along the Raate road and elsewhere in Finland.

Soviet Convoy on Raate Road

i. The battle painted a very sharp contrast between Finnish ski units with total tactical mobility and Soviet motorized units with no mobility of any kind away from the few roads.

Battle of Suomussalmi

- ***Sharp contrast between cold weather ability of Finn and Soviet armies***
  - ***Finns did well in cold***
    - ***Ahkio Groups***
    - ***Soldiers native to area and climate***
      - ***Adequately clothed***
      - ***Outdoor skills***
  - ***Soviet did not***
    - ***Lacked knowledge and equipment to warm men***
    - ***Soldiers primarily from Ukraine***
    - ***Unsuitable clothing and equipment***
    - ***Often killed while huddled around camp fires or in stupor***

j. Finnish troops with ski's over-whites, and tent. At home in the woods.

Finnish Ski Troops

l. Finn tents were very similar to our ten man arctic tents. Pulled on a sled. Major difference is that the stove was wood burning; hence Finn infantry units needed no external support to maintain warm shelter for them.

Finnish Ski Troops With Tent

m. By contrast, the Russian soldiers were not accustomed to Picture of what Red Army soldier suffered in Finland.

Frozen Soviet Soldier

Learning Step Activity 2 - Petsamo-Kirkenes campaign.

a. In June 1941 Germany invaded the Soviet Union. As part of this invasion, German forces from Norway and Finnish forces from Finland invaded the Kola peninsula attempting to interdict the Murmansk-Leningrad railway. This railway was the main route for sea-borne lend-lease supplies to enter the USSR. The German / Finnish offensive failed to reach the railroad in the summer of 1941. The Axis forces spent the next three years stalemated in this AO.

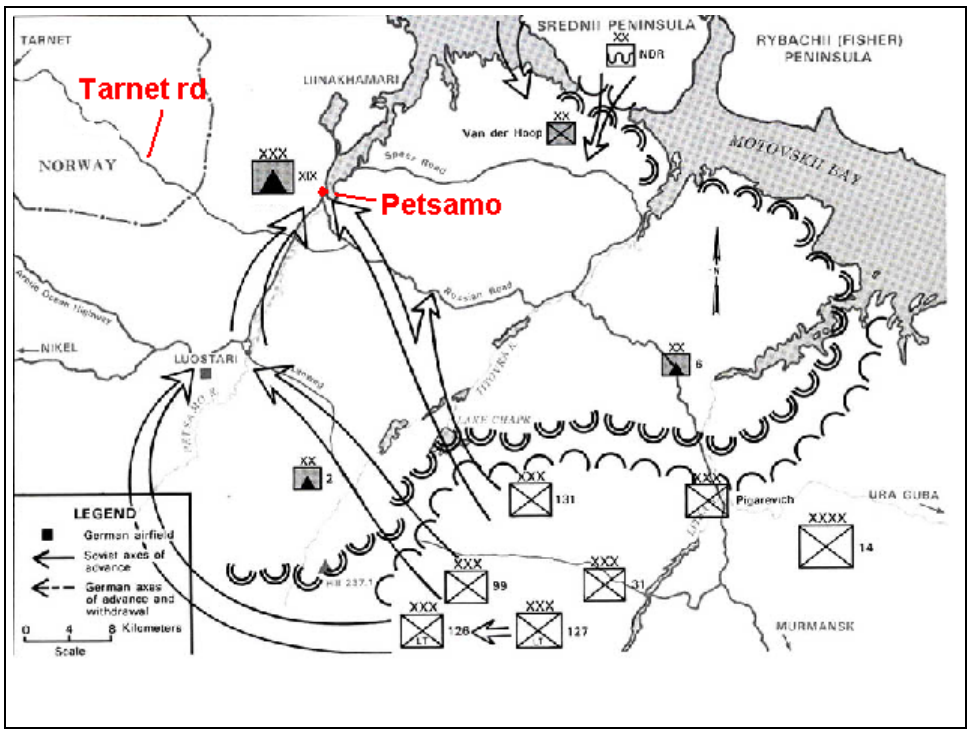
By spring of 1944 the tide of war on the eastern front had turned against Germany. The German army had suffered huge losses of men and material and had retreated to Soviet / Polish border. The USSR attempted to open negotiations with Finland in April 1944. Finland refused to negotiate and was subsequently invaded by the USSR in a Soviet operation pushing into southern Finland that was designed to force Finland to sue for peace. The operation successfully resulted in Finland agreeing to leave the war. After these events the German High Command decided to remove all forces from Finland and northern Norway. Of three German cops in the AO, two successfully retreated to southern Norway but a third did not leave before the Soviet Union launched and October 1944 offensive towards Petsamo and later Kirkenes Norway to destroy German forces and secure their northern flank.

Case Study: Petsamo-Kirkenes

Red Army Offensive October 1944

b. A macro look at the area of operations.

c. The Soviet 14th Army quickly broke through German defenses and over several days moved to Petsamo. Soviet artillery and re-supply had great difficulty, however, in moving over narrow, limited roads. Soviet artillery failed to interdict the retreat of German units over the Tarnet road as planned. Combat and movement of difficult terrain exhausted Soviet units to the point that after seizure of Petsamo the Soviet commander ordered a three day pause that allowed German forces to retreat and re-organize.



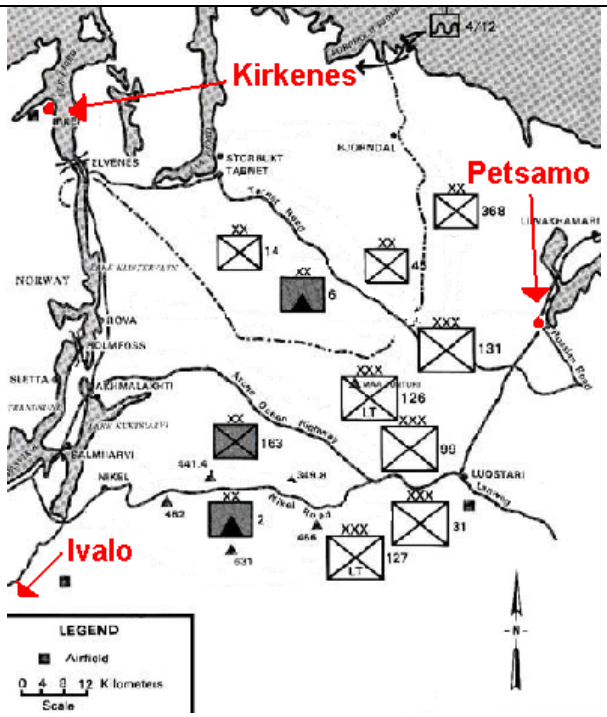
Petsamo-Kirkenes – Phase 1

- ***Restrictive terrain and sparse roads allowed German escape***
  - ***Soviet artillery couldn't interdict Tarnet road during German retreat from Petsamo***
    - ***Artillery fixed to roads***
    - ***Roads choked by traffic volume***
  - ***Three day pause after seizure of Petsamo allowed organized German retreat***
    - ***Infantry exhausted by terrain, ran out of supplies***
    - ***Logistics train slowed high traffic on few roads***

d. The sparse road network and un-trafficable terrain forced the Red Army to rely on mules, horses, and men to move the majority of their supplies.

Soviet horses with ammunition

e. During the second phase of the operation German units steadily retreated over the Tarnet, Arctic Ocean Highway, and Nikel roads. Soviet infantry had great difficulty, due to swampy ground, in flanking German blocking positions on these roads. Eventually some German units retreated south to Ivalo while the remainder moved to Elvenes and eventually Kirkenes.



Petsamo-Kirkenes – Phase 2

- ***Restrictive terrain and sparse roads again allowed German escape***
  - ***Terrain favored defense***
    - ***Swampy ground – hard to flank German positions on roads***
    - ***Open, rocky, hilly terrain – small German rearguards effective***
    - ***Result – Soviets couldn't fix or mass on German units***

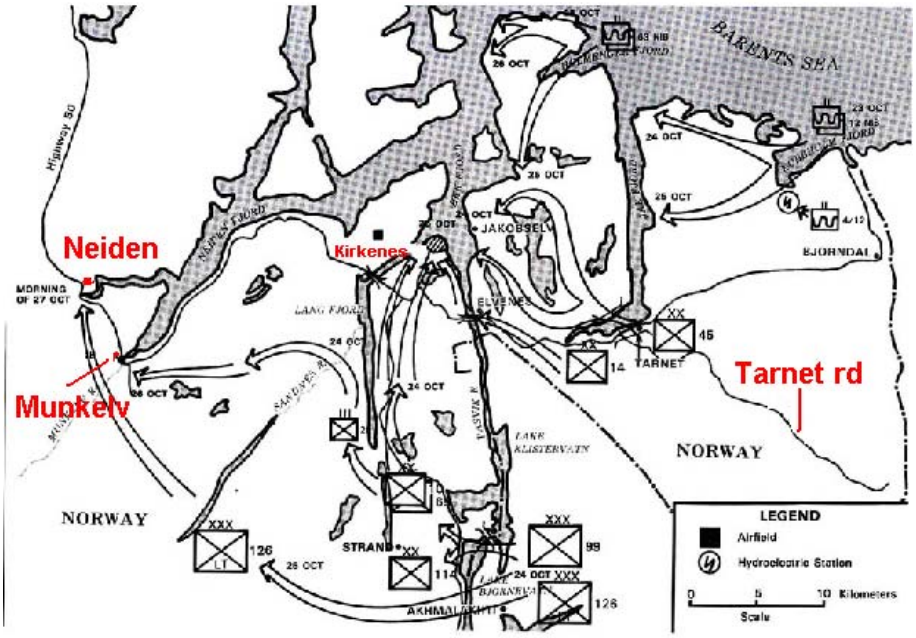
f. Note fields of fire and visibility that favor the defense and the rocky ground with bodies of water.

Terrain near Tarnet Road

g. This is an example of the terrain in the Petsamo-Kirkenes AO. During WWII this road would have been hard packed dirt, not a hard-ball road. Terrain to either side of the road is wet with very limited trafficability. The high ground in the distance provides good terrain for a retreating force to establish blocking positions as an attacking force would find a flanking attack on the blocking position very difficult due to the terrain.

Norwegian Highway

h. After leaving a rear-guard in Kirkenes, the German main body retreated over Highway 50 towards Neiden and the sea. The Soviet 124th division attempted to block this retreat by moving over-land to Munkelv in an attempt to interdict Highway 50. Halfway through the movement this unit, exhausted from moving over the difficult terrain and unable to receive re-supply, could not advance. The 10th Guards division assumed the 124's mission, used a shorter route to Munkelv, but still arrived too late to prevent German retreat. German units that bypassed Munkelv eventually escaped by sea to the west coast of Norway, marched the length of the country, and fought in the closing stages of the Battle of the Bulge against the American army.



Petsamo-Kirkenes – Phase 3

- ***Restrictive terrain and sparse roads allowed final German escape***
  - ***Soviets couldn't envelop Munkelv in a timely manner***
    - ***Soviet commander ordered long cross-country march***
    - ***126th Light Rifle Corps exhausted by terrain, forced to halt***
    - ***10th Guards division assumed mission, moved on shorter route, arrived at Munkelv too late***

ELO C

ACTION	Discuss common themes of cold weather operations
CONDITION	In a classroom environment
STANDARD	Discuss common themes of cold weather operations IAW the NWTC Cold Weather or Mountain Operations Manual.

Learning Step/Activity 1 – Common themes of cold weather operations

a. Fighting throughout all winters on the eastern front often centered on seizing shelter or denying it to the enemy.

b. The Austro-Hungarian army lost over 10,000 men to the cold weather after going against advice in launching a January offensive in the Carpathians.

c. Soldiers MUST have means to escape the cold. Historically, leaders who expect their men to "tough it out" end up inflicting great suffering on their soldiers and causing many casualties.

Common Themes, Cold Weather

- **Roads and Shelter - The Key Terrain in Arctic**
  - **Sparse road network the dominating factor in arctic**
    - **virtually all operations focus on seizing, retaining, and building roads**
    - **Mechanized armies very much tied to roads**
      - **Armor performance tied to snow depth and quality**
        - » **(tactical mobility)**
      - **Logistical support for armor still totally tied to roads**
        - » **(operational mobility)**
    - **Senior German commanders agreed after war with Russia that control of existing road network is one of the most important factors in fighting in cold weather.**

Common Themes, Cold Weather

- **Roads and Shelter - The Key Terrain in Arctic**
  - **Shelter critical in frigid weather**
    - **Both seizing and retaining it for you and denying it from enemy**
  - **Control of limited roads**
    - **Needs to be a top priority**
  - **References**
    - **Soviet Petsamo-Kirkenes operation [3]**
    - **Soviet Army, invasion of Finland 1939 4**
    - **German Army experience on Eastern Front 1941-44 [5]**

ELO D

ACTION	Describe the effects of mountainous terrain on military operations
CONDITION	In a classroom environment
STANDARD	Describe the effects of mountainous terrain on military operations IAW the NWTC Cold Weather or Mountain Operations Manual.

Mountains

Learning Step/Activity 1 - Terrain in a mountainous environment

a. Mountainous terrain can range from what many people would consider high hills to obvious peaks such as what is found in the Himalayas. The same problems face military operations in high and low mountains; the difference is only in the degree of difficulty. As in cold weather regions, mountainous regions lack well developed infrastructure, which particularly military operations in the lack of roads. Movement is very slow and exhausting. Key terrain dominates tactical decisions.

b. Observation and fields of fire in mountains depends on intra-visibility lines. A position may have extensive or limited visibility depending on local terrain. Cover and concealment is generally very good due to terrain, although lack of vegetation may greatly reduce concealment.

c. Even for dismounted troops, nearly all terrain is an obstacle in the mountains. The only avenues of approach for vehicles are the few established roads.

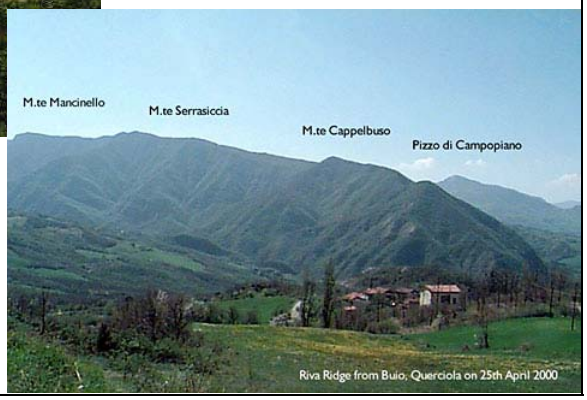
Terrain, Mountains

- ***Observation / Fields of Fire***
  - ***Open or restricted depending on intra-visibility lines***
- ***Cover and Concealment***
  - ***Good due to terrain***
  - ***Lack of vegetation may reduce concealment***
- ***Obstacles***
  - ***Technical obstacles***
  - ***All terrain is***
    - ***no-go to vehicular movement***
    - ***slow-go or no-go for dismounted movement***

c. The 10th Mountain Division fought a battle on Riva Ridge.

Apennines, Italy

Riva Ridge ⟶



d. A photograph from 1-87 IN 10th MTN DIV in operation Anaconda. Cold weather and mountainous environments are often one and the same.

Afghanistan

e. Key terrain in mountainous environments is terrain that you can move on in some fashion. The easier or faster the terrain is to move on the more key it is. Passes are very key terrain at the operational level.

Terrain, Mountains

- ***Key Terrain***
  - ***Roads, trails, foot paths, ridgelines, climbable routes***
    - ***Anything that facilitates movement***
  - ***Passes (roads)***

f. Avenues of approach in mountains are very limited. The more technically skilled units are at mountaineering, the more options they have for avenues of approach and routes.

g. Vehicles have very limited access into mountainous regions. Often only one or two roads will move into or through a very large region.

Terrain, Mountains

- ***Avenues of Approach***
  - ***Dismounted – Vary from non-existent to limited depending on soldier skill level.***
    - ***All avenues involve slow movement.***
  - ***Mounted – Very limited access into a mountainous region. Access through mountains on passes***

h. Pakistani soldiers on the Saichen glacier in the Himalayas. The terrain of the Saichen glacier under Pakistani control allows re-supply by men and mule. The terrain controlled by the Indian army does not allow ground re-supply; the Indians have to rely on very expensive rotary wing logistical support.

Pakistani Patrol at 20,000 ft.

ELO E

ACTION	Discuss the First Special Service Force and Mount De La Difensa campaign
CONDITION	In a classroom environment
STANDARD	Discuss the First Special Service Force and Mount De La Difensa campaign IAW the NWTC Mountain Operations Manual.

Learning Step Activity 1 - Battle of De La Difensa.

Case Study: Mount De La Difensa

First Special Service Force
December 1943

a. The original concept behind the FSSF was to form a commando style unit of specially selected men capable of performing raids on Norwegian industry that would thus draw German units away from other fronts. Both Canadian and American officers and enlisted men made up the unit. Three regiments of six hundred men each plus a six hundred-man service battalion made up the "Force." The FSSF spent its first 9 months of existence training in the Rocky Mountains of Montana and also in Vermont. Towards the end of the FSSF's training period, army staff scrapped the Norwegian raid concept and after participating in the liberation of the Aleutian island of Kiska the FSSF left for the Mediterranean for use as a deep reconnaissance and raid asset.

F.S.S.F.

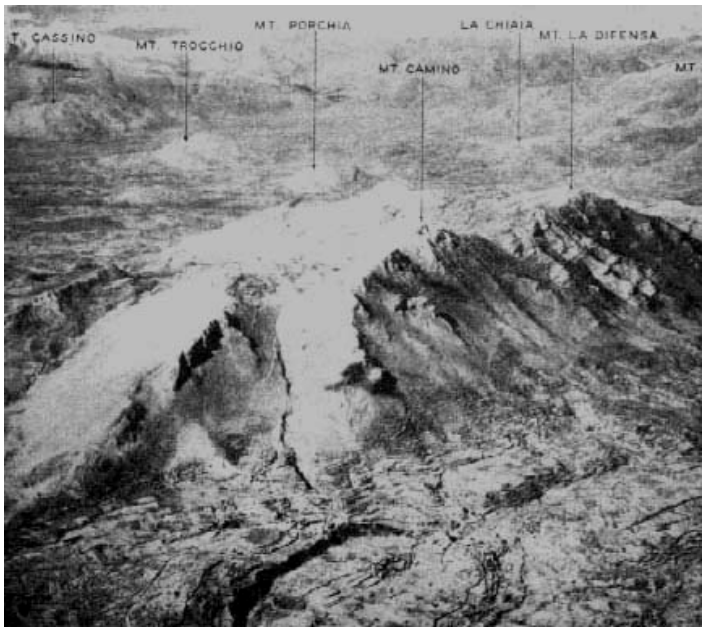
- ***American unit***
  - ***American and Canadian officers and soldiers***
- ***Brigade size – 3 regiments with a support battalion***

F.S.S.F.

- ***Stood up in early 1942***
  - ***Mission to perform strategic raids throughout Norway***
  - ***9 months of mountain training***
    - ***Rocky mountains in Montana***
    - ***Finished in Vermont***
- ***Subordinate units***
  - ***2 section platoons***
  - ***60 man companies***
  - ***200 man battalions***
  - ***600 man regiments***

b. A little over a year after the invasion of North Africa, the allies controlled the island of Sicily and the lower portion of Italy. Stubborn and skillful German defense combined with good fortifications and difficult terrain led to a near stalemate in the allied drive towards Rome. As the First Special Service Force (FSSF) arrived in theater, the U.S. Fifth Army was attempting to reduce a German position on the Camino hill mass that controlled a key avenue of approach into Rome. The 7th Infantry Regiment of the 3rd Infantry Division had spent ten to twelve days making repeated assaults on the high ground and eventually withdrew with heavy casualties. Commander of the Fifth Army, General Mark Clark, assigned the FSSF, an elite unit highly trained in mountain warfare, to his II Corps which gave the FSSF the task of seizing Mount de la Difensa, a piece of key terrain on the Camino hill mass

Mount de la Difensa



c. German defenses on Mount De La Difensa oriented on the only obvious avenue of approach that the 7th Infantry had used in their attacks, the only ridgeline leading to the hill. Noting this, the FSSF commander decided to scale a cliff and seize the hill in a swift surprise attack. The Force was able to use this alternate route because of their advanced mountaineering training.

After making contact with the German defenders, the fight quickly dissolved into a decentralized action where FSSF junior leaders took over and secured their individual objectives.

F.S.S.F.

- ***Mountaineering skills opened up a denied avenue of approach***
  - ***Scaling of cliffs at Mount de la Difensa a key to success***
- ***Junior leaders carried fight after scaling cliffs***

d. After securing De La Difensa, the Force spent considerable effort and time evacuating casualties and brining up supplies. The terrain was too steep to use mules on, all casualties and supplies moved by hand. Heavy fog enveloped the entire Camino hill mass for several days. One can speculate that even today the weather would have denied a modern army the use of helicopters. COL Frederick anticipated logistical problems while planning the attack; he planned to use one entire regiment, numerically equivalent to a battalion, to move supplies and casualties up the hill

F.S.S.F.

- ***Logistics difficult, supplies came up by hand***
  - ***Heavy fog - bad weather for helicopters even today***
  - ***Whole regiment (equiv of Bn) dedicated to re-supply***

ELO F

ACTION	Discuss common themes of mountain operations
CONDITION	In a classroom environment
STANDARD	Discuss common themes of mountain operations IAW the NWTC Mountain or Cold Weather Operations Manual.

Learning Step/Activity 1 – Common Themes of Mountain Operations

a. The Red Army found in Afghanistan that large unit operations are very difficult in the mountains. Lack of a road network made logistical support difficult and prone to interdiction. The terrain separated units between ridges and valleys, making mutual support and often communications difficult or impossible. The Soviets also found that small infantry units sent up into the mountains had to be capable of independent operations. Junior leaders must be capable and allowed to exercise judgment and flexibility. Mortars demonstrated their importance as they gave small units organic indirect fire support with high-angle fire capable of firing behind ridges and peaks.

US operations in Afghanistan are again highlighting these same lessons.

Common Themes, Mountains

- ***Combat decentralized, focused on small units***
  - ***Large operations difficult - Terrain and sparse road network***
  - ***Inadequate mutual support between units.***
    - ***Junior leaders - capable of and allowed to practice initiative and flexibility.***
    - ***Small units must have indirect fire support that can fire into dead space and that the unit controls (ie organic mortars)***
  - ***References***
    - ***Soviet Invasion of Afghanistan[6]***
    - ***First Special Service Force, Italy, WWII [7]***

Common Themes, Mountains

- ***Decentralized Nature of Mountain Fighting –***
  - ***"…the weather and terrain forced the regimental commander to decentralize his command. Most companies were fighting to secure objectives which in no way were in contact with another company…"***

    WWII mountain vet

b. The difficulties of moving and re-supplying in the mountains cannot be overstated. Operations are generally totally denied the use of ground vehicles. Rotary wing aviation is a huge, but temperamental asset. Even our highly technology dependent army found in Afghanistan that commanders who are not prepared to pack in supplies by hand find that they cannot support their subordinate units or evacuate their casualties. The US army lacks a time proven and still very useful asset, mules.

Common Themes, Mountains

- ***Difficulty of Logistics in Mountains***
  - ***Supplies come only by men, mule, or helicopter***
    - ***Helicopters subject to altitude, weather, and enemy ADA threat***
  - ***Often even mules won't work, supplies packed in by soldier***

    First Special Service Force dedicated one whole battalion to moving supplies at Mount de la Difensa

c. The gator is a 6 wheel ATV that doesn't need as developed roads as other vehicles.

Common Themes, Mountains

- ***Difficulty of Logistics continued***
  - ***"Gator" vehicle working well in Afghanistan***
  - ***"…the rate of advance was determined largely by the progress made by engineers in the construction of supply and evacuation roads…" – WWII mountain vet***
  - ***References***
    - ***Soviet Invasion of Afghanistan [8]***
    - ***10th Mtn Div, Italy, WWII [9]***
    - ***10th Mtn Div, Afghanistan, OEF [10]***
    - ***First Special Service Force, Italy, WWII [11]***
    - ***Experience of Indian Army on Saichen Glacier [12]***

d. Many units have found that sea-level fitness does not directly correlate to high altitude and mountain fitness. Being able to run far and fast in low areas does not mean that soldiers will be able to carry heavy loads for long periods of time over steep terrain. General fitness does, however, allow soldiers to perform better at altitude and reduces instances of high altitude illnesses.

Common Themes, Mountains

- ***High level of physical fitness is critical***
  - ***Any movement in mountains very fatiguing***
  - ***Supplies, equipment, and casualties often must be moved by soldiers over difficult terrain***
  - ***Higher level of fitness means better performance at altitude***

e. The US Army and Marine Corps both noted the much superior tactical mobility of the Chinese army early in the Korean War. Chinese units could move at a jog for hours on end and did very well in mountainous northern North Korea.

Common Themes, Mountains

- ***High level of physical fitness is critical***
  - ***"…the movement started out with a rest period of 5 minutes every half-hour of climbing, but as the company neared the top, five minute rest periods came every 10 minutes…"***
    WWII mountain vet
  - ***References***
    - ***10th MTN DIV, OEF [13]***
    - ***Experience of US First Special Service Force, Italy WWII [14]***
    - ***Chinese invasion of North Korea[15]***
    - ***Ranger Regiment, OEF***

ELO G

ACTION	Describe the similarities in the effects of cold weather and mountainous terrain on military operations
CONDITION	In a classroom environment
STANDARD	Describe the similarities in the effects of cold weather and mountainous terrain on military operations IAW the NWTC Mountain or Cold Weather Operations Manual.

Learning Step/Activity 1 - Similarities Between Mountainous and Cold Weather Environments

a. A re-occurring theme from Napoleon's invasion of Russian to Operation Anaconda. Leaders must be very realistic, not optimistic, about timetables, logistics capabilities, and their soldiers' ability to withstand the elements.

b. Operational goals must flow from and reflect what logistics can support. Commanders who reverse this thought processes frequently "bite off more than they can chew." Their soldiers pay the price.

Common Themes, Overall

- ***Senior Leaders <u>Must</u> Respect Degree of Impact of Climate and Terrain on Operations***
  - ***"Can-do" attitude - good for executers, <u>Bad For Planners</u>***
  - ***"Ambitious and ill-conceived plans have proved very costly"***
    - ***MAJ Muhammad Asim Malik,***
      Pakistan Army Saichen Glacier veteran speaking about operations in history and during Indo-Pakistan conflict.

Apparent gross disparities of capabilities between two forces can be deceiving. Before the Russo-Finish war the Red army appeared to hold every advantage over the Finn Army. The Red Army was motorized, had ample numbers of tanks, aircraft and artillery, possessed incredible superiority in sheer numbers, and was a full-time trained army. The Finn army was tiny by comparison, almost totally lacked artillery, armor, or aircraft, and was an ill-trained reservist force. All of the Red Army's advantages were negated by the fact that their individual soldiers and small units could not function in severe cold and deep snow. At the battle of Suomossalmi a hastily assembled, mobile, aggressive, ski-equipped Finn light infantry division totally destroyed two powerful Soviet motorized divisions in days due to the lack of Red army cold weather field craft.

Common Themes, Overall

- ***Senior Leaders <u>Must</u> Respect Degree of Impact of Climate and Terrain on Operations***
  - ***Slower Tempo - due to slower movement rates and difficulty of logistics***
  - ***Don't outrun your logistics***
  - ***Control of Key terrain often most important tactical consideration (avenues of approach and shelter)***

Throughout the Soviet invasion of Afghanistan lightly equipped Mujahdeen fighters, very adept at mountain combat, routinely engaged and destroyed mechanized Soviet units unable to move or fight in steep terrain. The Red army's extensive use of helicopters, armor, firepower, communications, and strong logistical support could not prevail against a much more poorly equipped enemy better skilled at mountain warfare.

Common Themes, Overall

- ***Soldier and small unit skills critical to fight***
  - ***Without cold weather field craft units fall apart***
  - ***Light infantry skilled in skiing only way to fight away from roads in arctic***
    - ***Germans found that only Mountain or Ski units functioned well in arctic (6th SS Mountain Division, 20th Mountain Army)***

Common Themes, Overall

- ***Soldier and small unit skills critical to fight***
  - ***Mountaineering skills open up otherwise denied avenues of approach in mountains***
  - ***Junior leader performance key to success***
    - ***Must display initiative, aggressiveness, mental toughness, and constantly monitor soldiers***

Common Themes, Overall

- ***Mountainous and Cold Weather Environments are often one and the same***
  - ***Freezing and snow levels are variable in mountains severe weather and snow can occur at any time[17]***
  - ***References***
    - ***Austro-Hungarian Winter offensive in Carpathians January 1915[16]***
    - ***10th Mtn Div, Afghanistan, OEF[17]***
    - ***Indo-Pak conflict on Saichen Glacier[18]***
    - ***Italian and Austro-Hungarian fighting in Alps in WWI***
    - ***USMC and Norwegian army conference on cold weather operations[19]***

SECTION IV	SUMMARY

Review and Summarize Lesson

Action:	Describe tactical considerations for cold weather and mountain operations
Condition:	In a classroom environment.
Standard:	Describe tactical considerations for cold weather and mountain operations IAW the NWTC Mountain or Cold Weather Operations Manual, FM 3-97.6, FM 3-97.61 and the references listed in this presentation.

Summary

- ***Respect climate and terrain. Planners and Commanders should be realistic, not optimistic***
- ***Logistical capabilities must limit operational plans***
- ***Both environments require special skills, if not specialized units.***
- ***Altitude and steep terrain will break a unit not physically ready for mountains***
- ***Mountains = cold and snow, in any season***

Historian Scott McMichael was a US army Major who studied the Soviet-Afghan war.

Quotes

"Dependence on technology…revealed a reluctance on the part of the Soviets to close with the rebels in isolated small-scale combat"

Scott McMichael, pg127 Stumbling Bear

Quotes

"Humans are more important than hardware. Quality is better than Quantity."

5th Special Forces Group OEF / OIF AAR comments at 2003 Infantry Conference.

Quote from NCO who fought in the Sahi-Kot Valley engagement and throughout Operation Anaconda

Quotes

"(We) relied way too much on air support, didn't do enough ground tactics."

SSG from 10th Mountain Division, Operation Anaconda, Afghanistan

Quotes

"Rotary aviation is Achilles heel – requires intensive management."

"Mortars are very effective – biggest organic killers"

10th MTN DIV AAR comments from OEF at 2003 Infantry conference

Underlining is in original quote.

Quotes

"101st / 10th Mtn / Rangers / SFG all emphasized the importance of physical fitness whether in OIF's urban operations environment or OEF's challenging mountains and altitude"

Common themes summary, 2003 Infantry Conference

MAJ Muhammad Asim Malik is a major in the Pakistani army and a veteran of combat on the Saichen glacier. These quotes are from a paper he wrote while at the US army Command and General Staff College.

Quotes

"The U.S. Army needs to maintain at least one animal transport regiment of mules with its own trainers and handlers to augment existing logistic support ."

"The U.S. Army does not conduct collective training specific to mountain warfare, but rather it focuses more on survival training rather than high altitude combat."

MAJ Muhammad Asim Malik – Recommendations to improve US Army mountain warfare capability

Quotes

"Generally, senior leaders consider themselves well equipped for planning and conducting operations in any kind of environment. This is unfortunately not always true. From my personal experience, on the whole, commanders who served in the mountains as young leaders are far better at understanding and planning for this environment. "

MAJ Muhammad Asim Malik, Pakistan Army Saichen Glacier veteran

This unnamed general chaired a committee of former senior German army commanders and general staff officers who served on the eastern front during the second world war. The US army formed the committee, along with others, in the early 1950's to gather lessons learned by the German army.

This man served as a Panzer Division commander, Panzer Army commander, and finally as an Army Group commander. His time as an Army Group commander was on the eastern front. It is unknown, but assumed that his other commands were at least spent in part on the eastern front.

Quotes

"Climate is a dynamic force (in the Russian expanse); the key to successful military operations. He who recognizes and respects this force can overcome it; he who disregards or underestimates it is threatened with failure or destruction.

In 1941 the Wehrmacht did not recognize this force and was not prepared to withstand its effects. Crisis upon crisis and unnecessary suffering were the result. Only the ability of German soldiers to bear up under misfortune prevented disaster. But the German Army never recovered from the first hard blow."

Former German Army Group Commander, Eastern Front WWII

SECTION V	STUDENT EVALUATION
Testing Requirements	Students will be tested on this task during the written test as per the NWTC training schedule for this course.
Feedback Requirement	Students will receive two opportunities to pass each event tested. Re-training will be conducted for students that fail the first iteration of testing. Refer to C020 for specifics.

The following are resources that were used in preparation of this class.

Notes

1 *Anthony F. Upton, Finland 1939-1940. University of Delaware Press, Newark, NJ 1974. Pg. 57.*

2 *Norman Stone, The Easter Front 1914-1917. Charles Scribner's Sons, New York, NY 1975., pg. 113-114.*

3 *Leavenworth Papers #17, "The Petsamo-Kirkenes Operation: Soviet Breakthrough and Pursuit in the Arctic; Oct '44." pgs. 4-6, 32, 33, 35, 40, 51, 55, 59.*

4 *Elliston, H. B., Finland Fights. Little, Brown, and Company, Boston, MA 1940. Pg. 369.*

5 *Historical Study, "Effects of Climate on Combat in European Russia." Center of Military History, U.S. Army Washington DC. Pg. 71.*

6 *Scott R. McMichael, Stumbling Bear: Soviet military Performance in Afghanistan, Brassey's Inc. Riverside, NJ 1991., pg. 23, 32.*

7 *Scott R. McMichael, A Historical Perspective on Light Infantry. Combat Studies Institute, Research Survey No. 6., pg. 207.*

8 *Scott R. McMichael, Stumbling Bear: Soviet military Performance in Afghanistan, Brassey's Inc. Riverside, NJ 1991., pg. 85.*

9 *Curtis W. Casewit, Mountain Troopers, the Story of the 10th Mountain Division. Thomas Y. Crowell Company, New York, NY 1972., pg 52.*

10 *23, 24 September 2003 interview with SSG Michael Harper, 1-87 IN 10 MTN DIV, Operation Enduring Freedom. Conducted at BLDG 1555 FWA.*

Notes

11 *Scott R. McMichael, A Historical Perspective on Light Infantry. Combat Studies Institute, Research Survey No. 6., pg. 180, 183.*

12 *"The Coldest War," by Kevin Fedarko in "Outside" magazine February 2003, Mariah Media Inc., pg 39-59, 98-99*

13 *23, 24 September 2003 interview with SSG Michael Harper, 1-87 IN 10 MTN DIV, Operation Enduring Freedom. Conducted at BLDG 1555 FWA.*

14 *Scott R. McMichael, A Historical Perspective on Light Infantry. Combat Studies Institute, Research Survey No. 6., pg. 185.*

15 *Ibid., 60.*

16 *Norman Stone, The Easter Front 1914-1917. Charles Scribner's Sons, New York, NY 1975., pg. 113-114.*

17 *23, 24 September 2003 interview with SSG Michael Harper, 1-87 IN 10 MTN DIV, Operation Enduring Freedom. Conducted at BLDG 1555 FWA.*

18 *"The Coldest War," by Kevin Fedarko in "Outside" magazine February 2003, Mariah Media Inc., pg 39-59, 98-99*

19 *Conference on Cold Weather Combat Operations : final report, 8-12 March 1982, Elverum Norway (USMC and Norwegian Army.) Northrop Services, Arlington VA. Pg. 3-31*

Bibliography

Balchen, Bernt, COL; Ford, Corey, MAJ; La Farge, Oliver, MAJ; War Below Zero. Houghton Mifflin Company, Boston, MA 1944.

** Baumann, Robert F., Dr. Leavenworth Papers #20, "Russian-Soviet Unconventional Wars in the Caucasus, Central Asia, and Afghanistan."*

Bhargava, G. S., Their Finest Hour: Saga of India's December Victory. Vikas Publishing House PVT LTD, London 1972.

Burton, Hal, The Ski Troops. Simon and Schuster, New York, NY 1971.

Casewit, Curtis W., Mountain Troopers, the Story of the 10th Mountain Division. Thomas Y. Crowell Company, New York, NY 1972

** Chew, Allen F., The White Death: The Epic of the Soviet-Finnish Winter War. Michigan State University Press 1971,*

** Recommended Reading*

Bibliography

***Dvoretsky, Lev, COL, MG Oleg Sarin, The Afghan Syndrome: The Soviet Union's Vietnam. Presido Press, Navato, CA**

***Elliston, H. B., Finland Fights. Little, Brown, and Company, Boston, MA 1940.**

***Farnes, Olav. War in the Arctic. Darf Publishers, London 1991.**

***Galeotti, Mark. Afghanistan: The Soviet Union's Last War. Frank Cass, London 1995.**

***Beghardt, James F., Leavenworth Papers #17, "The Petsamo-Kirkenes Operation: Soviet Breatkthrough and Pursuit in the Arctic, October 1944."**

***Historical Study, "Effects of Climate on Combat in European Russia." Center of Military History, U.S. Army Washington DC.**

** Recommended Reading*

Bibliography

***Historical Study, "Terrain Factors in the Russian Campaign." Center of Military History, U.S. Army Washington DC.**

***Mankekar, D.R., Twenty Two Fateful Days. Manaktalas, Bombay, India 1966.**

***Marston, Muktuk. Men of the Tundra. October House, Inc, New York, NY 1969.**

***McMichael, Scott R., A Historical Perspective on Light Infantry. Combat Studies Institute, Research Survey No. 6**

***McMichael, Scott R., Stumbling Bear: Soviet military Performance in Afghanistan, Brassey's Inc. Riverside, NJ 1991.,**

***Moulton, J. L., A Study in Warfare in Three Dimensions: The Norwegian Campaign of 1940. The Ohio University Press, Athens, Ohio 1968.**

** Recommended Reading*

Bibliography

Muhammad Asim Malik, MAJ, Pakistan. MOUNTAIN WARFARE: THE NEED FOR SPECIALIST TRAINING. Fort Leavenworth, Kansas 2003.

Qureshi, Hakeen Arshad, MG, The 1971 Indo-Pak War. Oxford University Press, Sharae Faisal, Pakistan 2002.

Stone, Norman, The Easter Front 1914-1917. Charles Scribner's Sons, New York, NY 1975

Thomas, Charles W. CPT, Ice is where you find it. Bobbs-Merrill Company, Inc, New York, NY 1951.

Upton, Anthony F., Finland 1939-1940. University of Delaware Press, Newark, NJ 1974.

23, 24 September 2003 interview with SSG Michael Harper, 1-87 IN 10 MTN DIV, Operation Enduring Freedom. Conducted at BLDG 1555 FWA

Instructor Preparation

Background Reading:read entire book for overview of wars from which case studies and useful campaigns came from. All books at UAF library.

Baumann, Robert F., Dr." Leavenworth Papers, Number 17: The Petsamo-Kirkenes Operation: Soviet Breakthrough and Pursuit in the Artic, October 1944."

Circles of hell : the war in Italy, 1943-1945
Morris, Eric, 1940-

War on the eastern front, 1941-1945 : the German soldier in Russia
Lucas, James Sidney.

Moulton, J. L., A Study in Warfare in Three Dimensions: The Norwegian Campaign of 1940. The Ohio University Press, Athens, Ohio 1968.

Engle, Eloise and Lauri Paananen, The Winter War: The Soviet Attack on Finland 1939-1940. Stackpole Books, Mechanicsburg, PA 1992.

Instructor Preparation

Background Reading con't

McMichael, Scott R., Stumbling Bear: Soviet military Performance in Afghanistan, Brassey's Inc. Riverside, NJ 1991.,

Grau, Lester W. The Bear Went Over the Mountain: Soviet Combat Tactics in Afghanistan. Washington, D.C. : National Defense University Press, 1996.

Chew, Allen F., The White Death: The Epic of the Soviet-Finnish Winter War. Michigan State University Press 1971, pg. 97-125

Major General D. K Palit, War in High Himalaya (London: Lancer International, 1991), 205.

Instructor Preparation

Specific Campaigns to look at for additional research (the class would benefit from more research that would broaden the base of knowledge used to draw conclusions from):

Indo-Pak conflict on Saichen Glacier
Russo-Finnish War
Italian / Austro-Hungarian fighting in Alps in WWI
Buna-Gona campaign and Kokoda trail in New Guinea in WWII
Okinawa in WWII?
Soviet invasion of Afgahnistan
Operation Anaconda / OEF Afgahnistan
Petsamo-Kirkenes campaign WWII
Operation Barborossa, WWII
Fighting on Italian Peninsula WWII
British fighting in Falklands
British fighting in Malaya after WWII
Austro-Hungarian / Russian fighting in Carpathian mountains WWI
British / American help of White Russians after WWI
Napoleon's invasion of Russia

Instructor Preparation

Additional books

James Lucas, <u>Alpine Elite,German Mountain Troops Of World War 2</u> (London: Janes,1980),

Appendix A: Battle of Suomussalmi

Situation:

On 30 November 1939, the Soviet Union began an invasion of Finland to gain territory and protect the northern flank of the USSR. Inadequate planning, poor assumptions of Finnish climate and Soviet military capabilities, and use of second-rate troops nearly doomed the invasion from the start. Near total lack of combined arms coordination, soldiers poorly trained and equipped for winter warfare, and chronic road-bounded ness were hallmarks of Soviet operations for the first phase of the invasion. When fully mobilized the Finnish army consisted of nine divisions, though eleven were eventually used in the war, and suffered from many shortages. Finn artillery was scarce and outdated, the country's air arm virtually non-existent, and tanks rare. Two key Finnish strengths prevented immediate Soviet victory, however. First, many mobilized Finnish soldiers were loggers and woodsmen by trade and were very adept at movement, navigation, and survival in Finland's vast forest, deep snow, and cold. Second, the 1939 invasion was only another episode in a series of Russo-Finnish wars going back hundreds of years. Finnish soldiers displayed a very strong fighting spirit derived from historical hatred of Russia and from the fact that they were fighting in defense of their home. Aggressive Finnish ski units wreaked havoc on road-bound Soviet columns.

Weather and Terrain:

Southern Finland consists of thousands of lakes and rivers that serve to canalize movement in summer and also in winter to vehicles and non-ski equipped soldiers. Northern Finland is a large expanse of dense woods and sparse roads. Temperatures in winter could get as low as –40 in the north. Deep snow is characteristic of all of Finland.

Units:

The Finn 9th Division, responsible for defending the area surrounding Suomussalmi, was made up of mainly reservist ski troops with limited artillery support. 9th Division task organization frequently changed, depending on current mission, with formation and dissolution of task forces.

The Soviet forces attempting to seize the Suomussalmi area were the 163rd and 44th Infantry divisions. Both divisions relied on motorized and horse transport for support. The 163rd was a ordinary line infantry formation. The 44th, though not a guards unit, was considered elite.

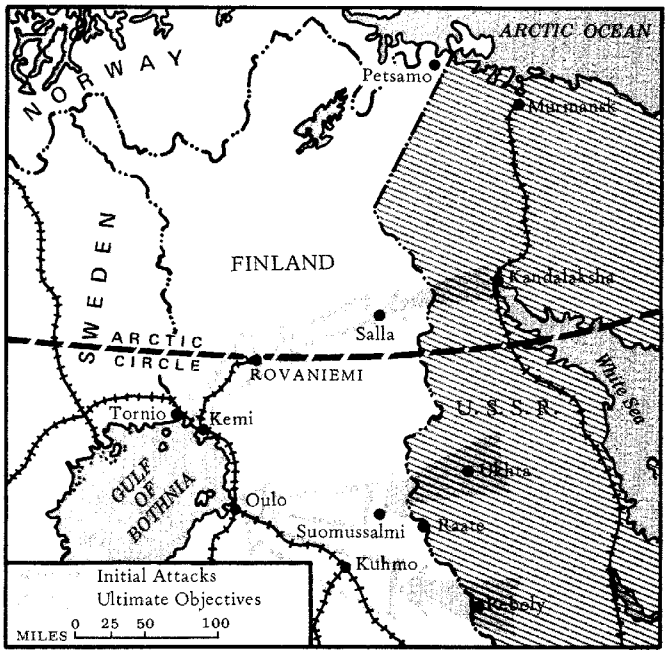
Operations:

As Soviet forces approached the Suomussalmi area, the main units of the 163d Rifle Division brushed aside a fifty-man covering detachment on the minor road that ran from the border near Juntusranta to Suomussalmi village, while the division's reconnaissance battalion and one rifle regiment pushed back two Finnish infantry battalions along the better road to Suomussalmi from Raate, about thirty miles South of Juntusranta. On 7 December the two columns joined forces to capture Suomussalmi, some twenty-five miles from the Soviet border. There a brigade of less than 5,000 men held the 163d Division in check until more reinforcements could reach that remote district.

By Christmas the Finnish forces totaled 11,500 men, reorganized as the 9th Division. This division had been formed in haste from various reserve units that happened to be available; only one of its three infantry regiments, JR*27, commanded by Lt. Col. Johan Makiniemi, had been a part of that division before the war (the other peacetime regiments had previously been deployed to distant regions). Lt. Col. Karl Mandelin's newly formed JR65 was rushed to Suomussalmi from Oulu. Lt. Col. Frans Fagernas's JR64 arrived from the southwest and included the only regular army troops in the division. These reserve units had never before served together, but coordination was good because all of the regimental commanders and the division commander, Col. Hjalmar Siilasvuo, were veterans of the 27th Jager Battalion, That unit of some 1,800 Finnish volunteers had fought in the Kaiser's army against the Russians in the First World War. After Finland gained its independence from Russia in December 1917, those Jager veterans received additional battle experience in the Finnish civil war of 1918. They also became the nucleus of the Finnish officer corps.

* JR: infantry regiment.

On 27 December Colonel Siilasvuo launched a major counterattack against his opponent, who outnumbered him by several thousand men and also enjoyed a vast superiority in firepower. In two days of fierce fighting the Finns shattered the 163d Division; before the month ended its survivors were fleeing in disorder northeast towards the frontier. By then the snow was at least three feet deep and the mercury dipped to -30° to -40°. Daylight lasted only about five hours.



While the battle with the 163d Division was still developing, the Ninth Army had dispatched along the Raate road a strong reinforcement, Commander Vinogradov's elite 44th Motorized Rifle Division. This regular army unit was originally from the Kiev Military District, and most of its troops were Ukrainians who were not familiar with northern woods. (In contrast, many of Siilasvuo's men were lumberjacks in peacetime.) The crew of the Finns' lone airplane* spotted advance elements of the 44th Motorized Infantry Division as early as 13 December, and they estimated that the main components were on the

Raate road by the twenty-fourth. Had they succeeded in linking up with the 163d Division in time, the defense of central Finland would have been seriously jeopardized.

> *Colonel Siilasvuo had but one obsolete plane at his disposal. Although it could be flown only at dawn or dusk, it was effective for reconnaissance because the Russians were clearly visible on the roads. The Soviets employed very few aircraft here, although the Finns saw many bombers overhead enroute to Oulu and other rear areas. Because of short days and the cover provided by the dense forests, air power played a very minor role in the early campaigns in central Finland in general. The Soviets then directed their bombing efforts mainly against Finnish towns and the defenses on the Karelian Isthmus far to the south.

However, Colonel Siilasvuo had countered this potential threat before it became a reality. On 11 December he established a roadblock at a ridge between Lakes Kuivasiarvi and Kuomasjarvi, about six miles southeast of Suomussalmi. There Capt. Simo Makinen's two infantry companies, reinforced by additional mortars and guns, held up the advance of the entire 44th Division. Their success was due both to their own initiative and mobility and to the fact that the road-bound Russians were vulnerably ignorant about the strength and dispositions of the Finns.

The 44th Division had large amounts of motorized equipment, including about fifty tanks, all of which were confined to a single narrow dirt road through a pine forest. Under those circumstances the division could not bring more than a fraction of its abundant firepower to bear on the Finns at the roadblock. Although they had several hundred pairs of skis, none of the Russians had been trained to use them; therefore, even the infantry was confined to a radius of a few hundred yards on either side of the roadway.

In contrast, all of the Finns were experienced skiers and thus able to keep the 44th Division under constant surveillance. They also harassed it night and day with hit-and-run attacks on both of its vulnerable flanks, which stretched nearly twenty miles from the roadblock to the border. Approaching silently on skis and camouflaged in their white snowsuits, the Finnish raiders often achieved complete surprise. When they opened fire from the woods at close range, their Suomi submachine guns (firing seventy rounds per magazine) were especially effective.*

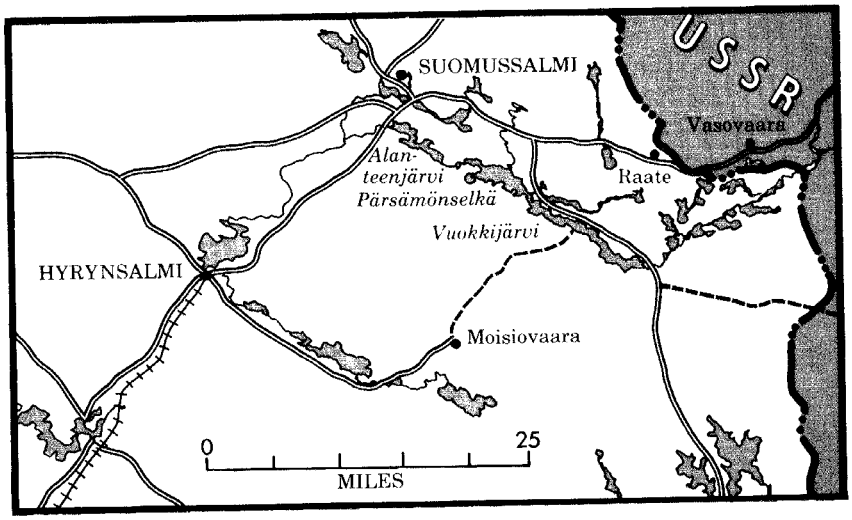
> *Each Finnish division was authorized 250 of these weapons, ideal for forest fighting which is necessarily at close range. The Russian forces in Finland had nothing similar until February 1940.

Misled by the frequency and effectiveness of those attacks, Commander Vinogradov believed that a much larger force opposed him. Consequently, he made no major effort to rescue the 163d Division while it was being destroyed just six to eight miles beyond the roadblock. The minor attacks he launched on 24 and 25 December failed to dislodge Captain Makinen's small force. On the twenty-seventh, Vinogradov scheduled a new attempt to smash the roadblock for 1030 the next morning, but raids by two Finnish companies early on 28 December led him to revoke that order and to direct is division to dig in for defense on the road.

While still preoccupied with the numerically superior 163d Division, Siilasvuo had the foresight to order the preparation of an improvised winter road for future operations against the 44th Division. A truck equipped with a snowplow was driven over a series of frozen lakes that paralleled the Raate road about four to six miles to the south to form the winter road. The Finns also began clearing a snow trail about fifteen miles long from Moisiovaara, at the end of an existing road, to the winter road (the so-called ice road). This road system enabled them to supply their forces on the enemy's southern flank from a railhead twenty miles beyond Moisiovaara.

The Finns plowed another improvised road along the Haukipera watercourse to a point just west of Lake Kuivasjarvi. From there the road went overland (out of sight of the Russians across that lake near the roadblock), skirted the lake on the south, and then turned east. Where these winter roads branched cross-country from watercourses, the Finns used their usual method of compacting snow in areas where truck plows were impractical: a skier led a horse through the snow (in deep snow the horse proceeded by a series of jumps, which necessitated the rotation of lead animals), followed by a horse pulling an empty sled, followed in turn by a series of horse drawn sleds with progressively heavier loads.

Previous Finnish experience in bitter fighting just north of Lake Ladoga had indicated that three miles was the extreme limit for effective flanking attacks in wooded wilderness. More ambitious attempts had failed because of the problems of communications, supply, and artillery control in such a heavily forested environment. Thanks to Siilasvuo's winter roads, however, which alleviated those problems, large-scale flanking attacks were successful fifteen miles beyond the roadblock.



Map 5. General locale of Suomussalmi-Raate Campaign.

The initial moves to destroy the 44th Division began while mopping-up operations against the 163d were still in progress. On New Year's Eve a reinforced battalion of light infantry made a probing attack to the vicinity of the Haukila farm. Skirting Lake Kuivasjarvi on the south, they encountered a Russian battalion east of the lake. They confirmed that the area was heavily defended. In fact, the largest concentration of the 44th Division - a reinforced regiment and most of the division's tanks and artillery- was strongly entrenched in a two-mile sector just east of the roadblock.

On 1 January a small reconnaissance unit reported that the enemy had occupied the Eskola area, about one and a half miles south of the Raate road on another road branching off from it and crossing the border to the southeast. To deny the Russians further use of that road, Siilasvuo immediately dispatched Capt. Ahti Paavola's light battalion to the Sanginlampi area, about three miles south of Eskola.

Now the winter road over the frozen lakes began to prove its worth. Paavola's troops easily skied along it for fifteen miles on New Year's Day, camping for the night near the Makela farmhouse. Two larger strike groups, Task Forces Kari and Fagernas, also skied along that ice road during the first two days of January. They deployed from Suomussalmi to positions as far as twenty miles to the southeast from which they would later launch coordinated flank attacks. Maj. Kaarle Kari's three battalions bivouacked in the

Makela area, while most of Lieutenant Colonel Fagernah's two battalions camped near Heikkila. One reinforced company went as far as Vanka, just south of Raate.

All of those units enjoyed the comfort of Finnish Army tents, each of which was easily transported on one skiff like sled called an *akhio,* which was harnessed to three skiers, with a fourth behind it to steady the load. The units also used that simple carrier to haul mortars, heavy machine guns, and supplies and to evacuate the wounded. Each tent, heated by a wood-burning stove, kept twenty men comfortably warm on even the coldest nights. Lying on soft pine branches and sleeping in their uniforms, the Finns did not need blankets.

In marked contrast, the Russians huddled around open campfires or dug holes in the snow for shelter. At best, they had an improvised lean-to, a shallow hole covered with branches, or a branch hut fashioned at the roadside or in a ditch. The fortunate ones had a fire in a half-barrel. Many literally froze to death in their sleep, Lack of proper footgear aggravated their misery; the summer leather boots which most wore contributed to many frostbite cases. Finnish estimates put Russian losses from the cold as high as their battle casualties. Once the Finns had begun major and sustained counterattacks, the enemy's problems of survival worsened: it became too dangerous to use open fires at night.

Numbering about a thousand men, Capt. Eino Lassila's battalion (I/JR27) began the first sustained effort to cut up the 44th Division during the night of 1 January. Using the winter road previously cleared around the southern end of Lake Kuivasjarvi and extending to the east, a rifle company moved ahead as a trail security party during the afternoon of 1 January. The remainder of the battalion followed about an hour later. By 1700 the entire battalion had reached the end of the horse trail (the winter road), where they ate a hot meal before proceeding to their objective some three miles to the north, Pulling machine guns and ammunition along on *akhios,* they traversed those last miles through dark woods in deep snow and bitter cold silently on skis.

About 2300 the advance guard reached a ridge about four hundred yards from the Raate road, where they could see the enemy grouped around numerous campfires. Captain Lassila positioned six heavy machine guns on each side of the assault force on the ridge. He ordered two rifle companies to advance abreast and very close to one another, while the third remained in reserve near the command post behind the ridge. Upon reaching the road, one company would push east, the other west, to seize about five hundred yards of the roadway. Then the attached engineer platoon would throw up roadblocks in both directions by felling trees and mining them.

A half hour after midnight the assault companies advanced, overran the sentries posted about sixty yards from. the roadway, and reached the road with little opposition. By a fortunate accident they had emerged from the woods some five hundred yards east of their assigned objective, the Haukila farm. Instead of the strong infantry defenses they had expected, the Finns fell upon an artillery battalion, which they easily captured. When they struck the road all of the field guns were facing west; although the Russians managed to turn two pieces towards the south, their crews were shot down before they could fire a single round. The Soviet four-barreled antiaircraft machine guns were also ineffective because they were mounted so high on trucks that they fired over the Finns' heads. The Finnish assault companies completed their task in about two hours with only light casualties; they did not even need the reserve company.

Using the horse and sled method described above, the battalion supply troops worked all night long to extend the winter road from the end of the horse trail to the battle area. About 0700 the first priority shipment arrived via this route, two antitank guns. They saw action almost immediately when the Russians launched their first counterattack from the east. Within fifteen minutes they destroyed seven tanks on or near the road, making the roadblock even more effective. The Finns also beat off an infantry attack.

Later that morning hot meals were sent forward from the support area, and tents were erected behind the ridge. The troops then rotated so they could warm up and have hot tea inside those shelters; except when under immediate attack, they were routinely relieved after two hours of exposure to the cold. In contrast, the Russians were both cold and hungry. Finnish patrols deliberately sought out field kitchens as targets and eventually destroyed or captured all fifty-five of them. Each day the roadblock held, the Russians grew weaker and more demoralized.*

> *The Finnish term for such an entrapped enemy force is a *motti*, which is their word for a stack of firewood piled up to be chopped. Motti warfare became a common feature of the battles in the forested wilds north of Lake Ladoga. When the Finns lacked sufficient firepower to reduce strong mottis-some of which contained scores of tanks-they relied upon cold and hunger to destroy their enemies.

During the afternoon of 2 January about two companies of Russian infantry waddled through deep snow to hit Lassila's roadblock from the west, but the Finnish reserve company caught them from the flank and forced them to withdraw. Then, as later, the 44th Division failed to coordinate its counterattacks and thus permitted the Finns to deal with them one at a time.

That same day Capt. Aarne Airimos's battalion (III/JR27) assaulted the road on Lassila's left flank and encountered the strong defenses near the Haukila farm. Although he secured positions close to the roadway, he could not sever it. That evening Colonel Siilasvuo ordered Capt. Sulo Hakkinen to position his light battalion (Sissi P1**) closer to Haukila, where it could support the 1st and 3d Battalions of the 27th Infantry Regiment. Hakkinen also sent reconnaissance patrols east of Lassila's roadblock.

> **Sissi literally means guerrilla, but it should not be equated to partisans; it was essentially light infantry employed in a manner similar to the U.S. Army Rangers, but Sissi units did not receive special training like the Rangers.

Further to the southeast, on 2 January, Captain Paavola's light battalion advanced towards the Sanginlampi farmstead from Makela. Because the Russians had deployed considerable forces there via the road past Eskola, Siilasvuo had to send Major Kari's units to assist Paavola. On 3 January Kari sent the 4th Replacement Battalion into the attack, and the next day it captured the Sanginlampi area in heavy fighting. Meanwhile, on 3 January one company of Sissi P1 cut the road north of Eskola, which enabled another of Kari's battalions (ER*** P15) to take Eskola from the south the next morning. Kari's third battalion (I/JR64) also reached Eskola that day. Thus, by 4 January Task Force Kari had secured an excellent attack position within two miles of the Kokkojarvi road fork.

> ***ER: Independent (Detached)
>
> P: Battalion

At the same time Task Force Fagernas's battalions (II and III/JR64) had been improving communications from the base camps towards the Raate road, but not close enough to alert the enemy. The company at Vanka constructed a winter road as far as Linnalampi, while the main units at Heikkila opened a poor road part way to Honkajarvi. By 4 January both forces had relatively easy access to points within four miles of the Raate road.

On 4 January Colonel Siilasvuo issued orders for a general attack designed to destroy the 44th Division the next day. Two new task forces were assembled; Lieutenant Colonel Ma'kiniemi's included all three

battalions of his own regiment (JR27) plus the 1st Sissi Battalion (Sissi Pl). Siilasvuo allocated six of his eight field guns to Makiniemi, because he had to attack the strongest known enemy concentration - in the Haukila area. Lieutenant Colonel Mandelin's Task Force, two battalions of JR65 and three separate units of company size or smaller, was to strike Haukila from the north in coordination with Makiniemi's blow from the south.

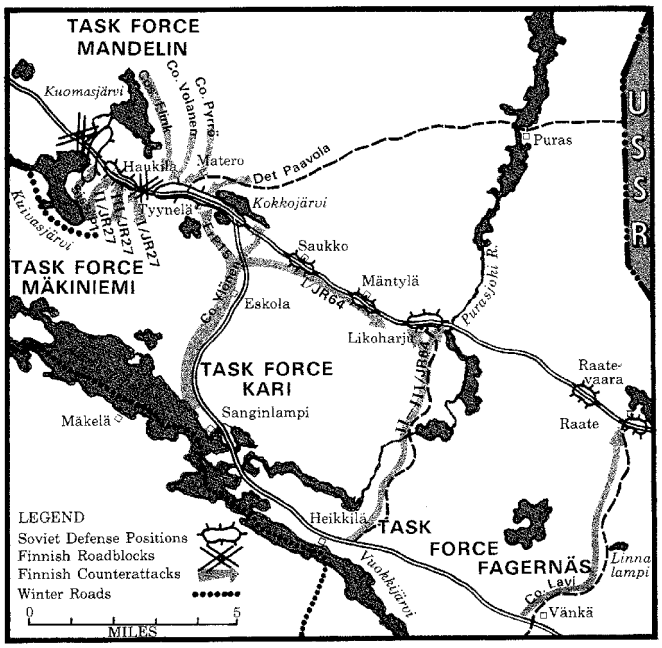
Just east of Makiniemi's sector, Task Force Kari-with three battalions and the remaining two field guns-was to destroy the strong units in the Kokkojarvi-Tyynela region by flank attacks. With part of his force he was also to push east to link up with Task Force Fagernas. Comprising two battalions of JR64, Task Force Fagernas was supposed to cut the road about a mile from the border and at the Purasjoki River to prevent the 44th Division from receiving reinforcements from the east.

On the fifth, Soviet resistance was still so strong that none of those attacks succeeded completely. The Soviets checked three of Task Force Makiniemi's battalions as they closed on the Raate road east of the original roadblock. The fourth, Captain Lassila's battalion, which had been holding its stretch of the road since 2 January, lost ninety-six men that day as the Russians desperately attempted to break through to the east.

Attacking from the north, Task Force Mandelin also made little progress, although it did secure-too lightly, as it later developed-a minor road leading northeast to the border near Puras in order to block any Russian retreat in that direction. Task Force Kari's attacks in the Kokkojarvi and Tyynela areas were likewise thrown back on the fifth; the Finns sustained heavy losses at Kokkojarvi.

Task Force Fagernas achieved the day's best results, although it accomplished only half of its mission, its attacks in the Raate area and at Likoharju having been repelled. Near Mantyla, however, one of its platoons did ambush and destroy several truckloads of reinforcements that were part of the 3d NKVD* Regiment, which had been sent to assist the 44th Division at the beginning of January. In a renewed assault that night, Fagernas finally took a stretch of the Raate road just north of Likoharju and held it against a strong counterattack from the east. Around 2200, his engineers blew up the Purasjoki River bridge, thus preventing further enemy truck traffic beyond that point (the river banks were too steep for motor vehicles).

> *NKVD: People's Commissariat of Internal Affairs, which included both secret police and border guard formations.



Map 6. Destruction of the 44th Division.

The decisive battles occurred on 6 January. Task Force Makiniemi overcame stubborn resistance to widen its hold on the Raate road east of the original roadblock. By evening all four of its battalions had reached the road, and the 3d Battalion had established a roadblock west of the one the 1st Battalion was still defending against repeated attacks. About 0200 the next day the Finns resumed the offensive, and after an hour's battle the enemy troops facing the 2d and 3d Battalions (JR27) abandoned their heavy equipment on the road and fled towards Haukila hill.

On the opposite side of the road, Task Force Mandelin spent most of 6 January hunting down enemy stragglers who were retreating through the woods to the northeast. Trudging through the snow on foot, the demoralized Russians were easy prey for the Finnish skiers.

About 0300 on 6 January, a reinforced company of Task Force Kari cut the Raate road about a mile east of Kokkojarvi and established another roadblock, which it held against two strong counterattacks. Desperately trying to fight its way out to the east, the 44th Division was being cut into smaller and smaller fragments. Battalion ERP15 seized a segment of the road east of Tyynela about 1100, after a three-hour battle. The main forces of the battalion then turned west towards Tyynela. By afternoon the Russians were abandoning this sector and fleeing along the Puras road, where only two Finnish companies were screening a broad sector, Colonel Siilasvuo therefore sent Captain Paavola's detachment to block that escape route at Matero, which Paavola reached that evening.

The freshest Russian troops, including the NKVD unit, counterattacked Task Force Fagerngs in such strength during the morning of 6 January that it had to withdraw a short distance into the woods to escape the fire of five Russian tanks. After their reserve company arrived, the Finns resumed the offensive near the Purasjoki bridge, where they established defensive positions west of the river. Nevertheless, Russian counterattacks continued near Likoharju late into the evening.

To relieve the pressure on Fagernas, Siilasvuo ordered Kari to send a battalion (I/JR64) against the enemy who were operating between those two task forces. That under strength battalion advanced along a forest path from Eskola to Saukko. Overcoming stiff resistance there, it pushed on by evening to Mantyla, which it took after several hours of fighting. By then so many Russian stragglers had bypassed the roadblock east of Kokkojarvi through the woods that they threatened the battalion's rear. Therefore, late in the evening the battalion commander turned his front from east to west and destroyed those harassing groups. The company near Raate also resumed its attacks on 6 January to prevent Russian movement on the road near the border.

Late in the evening of the sixth, Commander Vinogradov belatedly authorized the retreat that had been underway in many sectors for hours. He advised his subordinate commanders that the situation was desperate and that those who could escape should.

Although only mopping-up was necessary in most sectors on 7 January, the Russians were still trying to fight their way through to the east near Likoharju. About 0400, with the help of tanks, they threw a Finnish company back from the Purasjoki River. However, a Finnish counterattack at 1030 that morning dispersed the Russians in disorder. The Finns then continued westward to capture Likoharju, where they took many prisoners and five tanks.

The final attempt to rescue the 44th Division came during the early morning darkness when infantry, supported by artillery positioned behind the border, assaulted the company at Raate. After repelling that attack, the Finns sent a reconnaissance patrol two miles inside Soviet territory, where it encountered only support elements.

There was also minor fighting near Lake Kokkojarvi and Tyynela early on 7 January, but the Russians knew they were doomed. At daylight, troops of Task Force Makiniemi crossed the Raate road near Haukila and pushed north until they linked up with Task Force Mandelin.

The Russians in bunkers along the shore of Lake Kuivasiarvi resisted stubbornly, but the Finns cleared that area during the day and opened the road to Suomussalmi. The last organized resistance came from bunkers near Lake Kuomasjarvi. A Finnish platoon dispatched late in the evening returned from those positions at 0400 on the eighth with seventy prisoners.

Mopping-up continued for several days, as the Finns hunted down half frozen stragglers in the woods along the entire length of the Raate road and to the north. By the standards of that small war, the booty was enormous: the Finns captured 43 tanks, 70 field guns, 278 trucks, cars, and tractors, some 300 machine guns, 6,000 rifles, 1,170 live horses, and modern communication equipment which was especially prized. The enemy dead could not even be counted because of the snowdrifts that covered the fallen and the wounded that had frozen to death. A conservative Finnish estimate put the combined Russian losses (the 163d and 44th Divisions, plus the 3d NKVD Regiment) at 22,500 men. Counting killed, wounded, and missing, Finnish losses were approximately 2,700 (only about 12 percent of these casualties were frostbite cases).

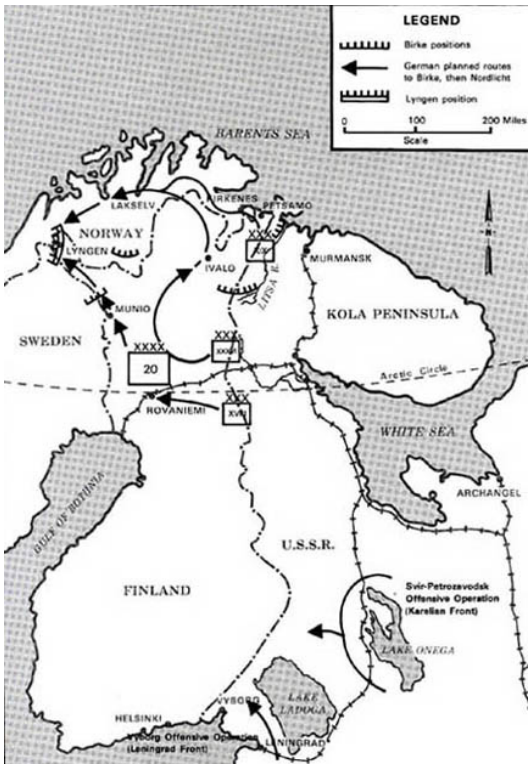
Appendix B: Petsamo-Kirkenes

Situation:

Operation Barborossa marked the beginning of the German-Soviet war that lasted from 1941-1945. Barborossa began with three German army groups pushing into the Soviet Union towards Leningrad, Moscow, and the Crimean peninsula. After failing to capture Moscow by the early winter of 1941, German forces assumed a defensive posture and survived strong Soviet counter-attacks around Moscow throughout the remainder of the winter. The following spring German forces resumed the offensive towards the Volga River and Caucus mountains. After initial reluctance, the United States and Great Britain decided to supply the Soviet Union with material aid. This aid came primarily over water through the Barents Sea to the Soviet northern port of Murmansk at the northeastern corner of the Scandinavian Peninsula, then traveling by rail to Leningrad. During the initial German advance into the USSR in June 1941 Finnish forces, and German forces from Norway, attacked east to interdict the Murmansk-Leningrad railroad. The Germans and Finns failed to reach the railroad in 1941 and spent the next three years on the defense, conducting long-range reconnaissance and patrolling operations in the area. By early 1944 the Finnish and Soviet governments engaged in armistice talks. These talks ended in Finnish refusal of Soviet terms. The USSR then began an offensive into southeastern Finland designed to force Finland from the war. By mid-August Finland resumed negotiations with the USSR and eventually agreed to end hostilities and disarm German forces in Finland. After Finnish exit from the war, the German high command decided to abandon the attempt to cut the Murmansk-Leningrad railroad and pull German forces back to Norway and eventually re-deploy them on the western front. Throughout August and September of 1944 the USSR prepared for an offensive designed to destroy German forces in Finland and the USSR.

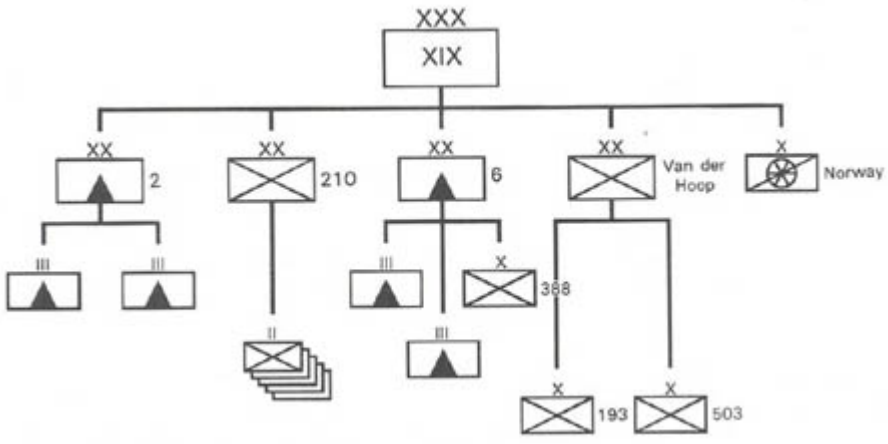
Weather and Terrain:

The Petsamo-Kirkenes area of operations is about 200 miles north of the Arctic Circle. October temperatures range from 23 F to 41 F with 13.5 hours of sunlight early in the month to 10 hours at the end. Terrain consists of tundra along the coastline with rock strewn hills and wetlands farther inland. The inland ground is not frozen in October and is waterlogged and broken with numerous lakes and streams. Single lane all-weather roads run from Kirkenes west and then south along the Norwegian western coastline into southern Norway. The Soviets also had a single all-weather road from Leningrad to the rear of their position. No roads connected the German and Soviet positions.



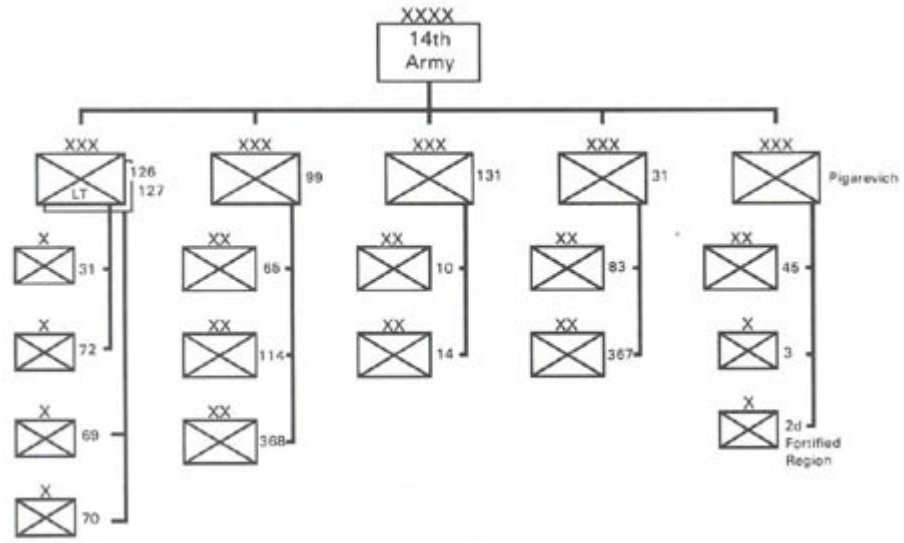
Units:

The German army maintained the 20th Mountain Army in the Petsamo-Kirkenes area of operations. The 20th Mountain Army consisted of three mountain corps. The Soviets focused on the northernmost of those three corps in its October offensive. The 19th Mountain Corps consisted of two mountain and two infantry divisions. The corps mission was to defend its position east of Petsamo until supplies were evacuated through the Petsamo and Kirkenes ports. The 19th Mountain Corps utilized a strongpoint defense in three separate belts.



19th Mountain Corps Task Organization

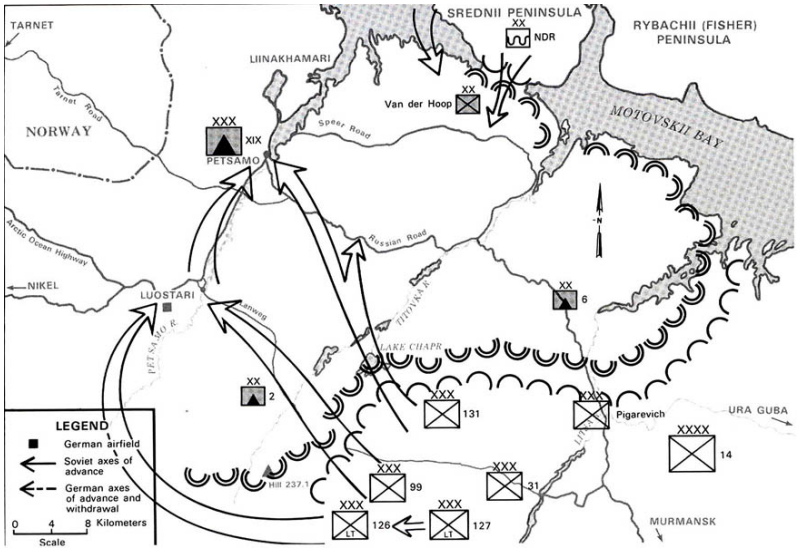
Soviet forces participating in the offensive consisted of the 14th Army with six infantry corps. Attached to the 14th Army from the Karelian Front were 76 tanks. As is typical for the Red Army, the 14th Army had ample indirect fire support in the form of towed, self-propelled, and rocket artillery. The 14th Army had thirty engineer battalions and army air in support also. Logistical support for the Soviets consisted of stockpiled supplies pushed forward on roads built or improved by engineers. Due to the poor quality of the roads, pack animals moved the majority of supplies. The 10th Guards Rifle division used five battalions of soldiers to move supplies over fourteen days.



14th Army Task Organization

Operations:

The offensive began on 7 October by a two and a half hour artillery preparation of 100,000 rounds. After the bombardment shifted Soviet infantry attacked along three axes. The main axis was from Lake Chapr north west to Luostari to prevent retreat of German forces, with supporting axis north to Petsamo and south to protect the left flank of the main axis. The Soviet infantry on the right flank quickly advanced 8-10 km but armor could not negotiate the roadless and un-trafficable terrain. The center and left axis met stiffer resistance and by nightfall had not reached their immediate objectives.

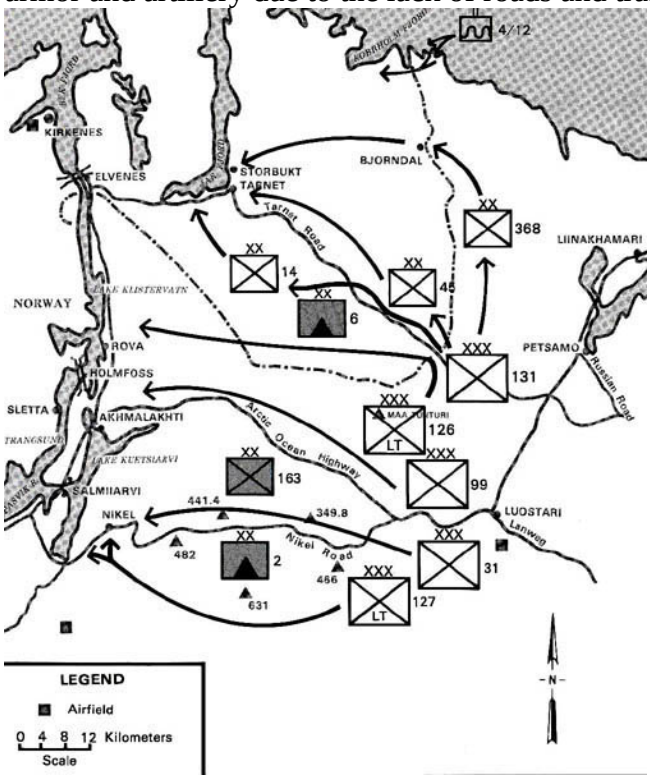


By late on 8 October all three axes had advanced beyond their initial objectives and outside the range of Soviet artillery. Soviet artillery could not advance because of the terrain. Throughout 8 and 9 October Soviet infantry continued to advance and put severe pressure on German positions. German units successfully withdrew as Soviet units had great difficulty re-supplying units and moving artillery due to the terrain.

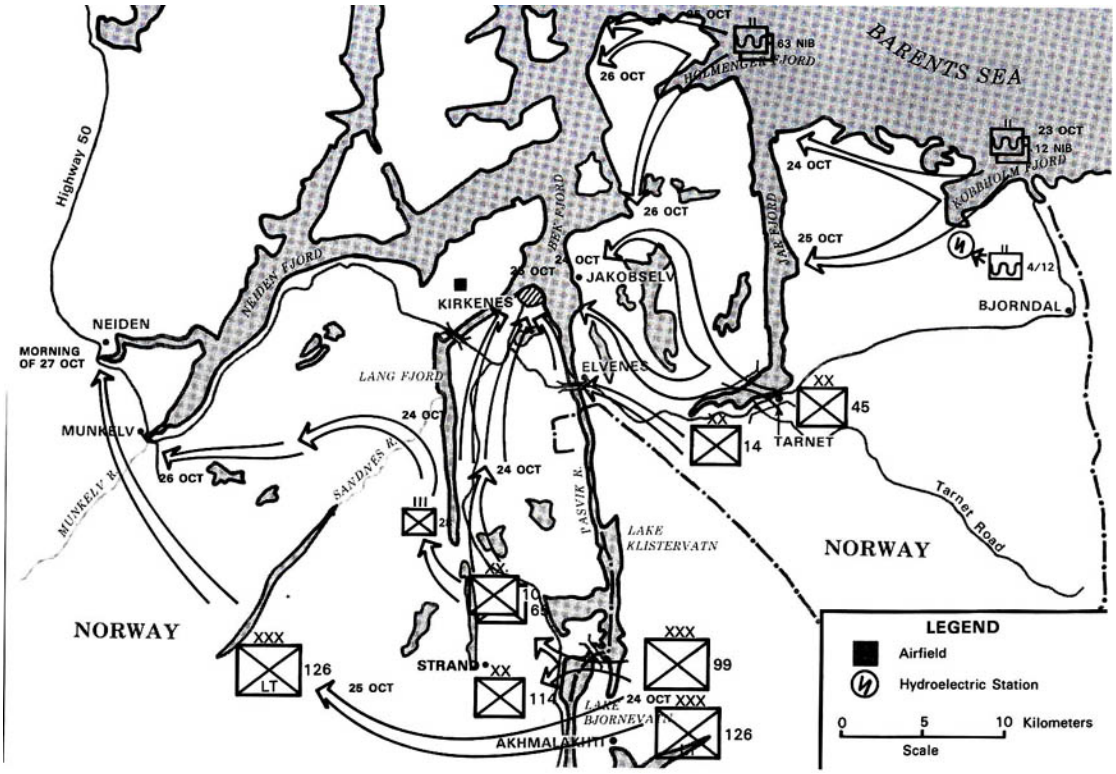
14th Army units continued to attack the 19th Mountain Corps from 9 to 12 October. By the night of 12 October Luostari was under Red Army control and all three Soviet axis were poised to seize Petsamo. By 14 October

Soviet forces established a blocking position on the only westward road out of Petsamo. The 19th Mountain Corps successfully defeated the blocking position and evacuated remnants of 3 divisions towards Norway. Soviet units were spent from fighting in rough terrain and had exhausted their supplies. The lack of a road network prevented adequate re-supply. The 14th Army commander ordered a three-day pause that allowed his soldiers to rest and re-supply. The 19th Mountain Corps used the three-day pause to re-organize and continue retreating.

After pausing, the 14th Army resumed the offensive on 18 October along the Tarnet, Arctic Ocean Highway, and Nikel roads. Soviet units used frontal attacks with supporting envelopments against well-placed German positions along the roads. Envelopments were difficult for infantry in the boggy terrain and all but impossible for armor and artillery due to the lack of roads and trafficable terrain away from the three main axes.



By 22 October the 14th Army had pushed the 19th Mountain Corps back along the three roads to Kirkenes and south toward Ivalo. The two northern axes combined to attack Kirkenes with the southern axes of the two norther axis splitting into two elements to provide assistance to the attack on Kirkenes and envelop Munkelv overland to cut off German retreat towards Neiden.



Starting on 23 October the 14th Army pushed towards Elvenes and Jakobselv in preparation for the attack on Kirkenes. By 24 October the 126th Light Rifle Corps, an almost division size unit assigned the mission to envelop Munkelv, exhausted its supplies and came to a halt on its road less cross-country march. The 14th Army ordered the 10th Guards Rifle Division to assume the envelopment of Munkelv along a cross-country march north of the 126th LRC route. On 24 October Soviet Air Reconnaissance detected German units retreating from Kirkenes towards Neiden. By 25 October the 14th Army defeated the small German rear guard in Kirkenes. By 26 October, units from the 10th Guards Division reached Highway 50 at Munklev and established a blocking position. German units ran into to th 10th Guards blocking position and after a brief fight moved cross-country north to the coast and escaped via the sea.

After successfully escaping destruction in Scandinavia, units from the 20th Mountain Army participated in operations supporting the later phases of the Ardennes offensive in January 1945.

Appendix C: First Special Service Force, Mount de la Difensa, Italy

Situation:

In 1942 American President Roosevelt and British Prime Minister Churchill laid out the allied strategy for winning the war against Hitler. Knowing that it would take one to two years to set the conditions for allied cross-channel landing and wanting to open other fronts to relieve pressure on the USSR, plans were made for an invasion of North Africa that would eventually lead to allied landings on the Italian Peninsula. A little over a year after the invasion of North Africa, the allies controlled the island of Sicily and the lower portion of Italy. Stubborn and skillful German defense combined with good fortifications and difficult terrain led to a near stalemate in the allied drive towards Rome. As the First Special Service Force (FSSF) arrived in theater, the U.S. Fifth Army was attempting to reduce a German position on the Camino hill mass that controlled a key avenue of approach into Rome. The 7th Infantry Regiment of the 3rd Infantry Division had spent ten to twelve days making repeated assaults on a ridge leading to Mount De La Difensa and eventually withdrew with heavy casualties. Commander of the Fifth Army, General Mark Clark, assigned the FSSF, an elite unit highly trained in mountain warfare, to his II Corps which gave the FSSF the task of seizing Mount de la Difensa, a piece of key terrain on the Camino hill mass.

Weather and Terrain:

Mount de la Difensa was part of a large, high complex of peaks and ridgelines known as the Camino hill mass. Considered to be vital terrain by both sides, the mountains rose precipitously on the south side of the Mignano Gap, a narrow valley that opened into the large Liri Valley, the "Gateway to Rome." Running roughly six miles long by four miles wide, the Camino hill mass averaged about 3,000 feet in height. The slopes facing the Allied forces were very steep, rough, jagged, and mostly bare of cover and concealment, except for ravines or gullies that traversed them and the scrub pines that dotted the lower elevations.

The only approaches into this inhospitable wall of rock and stone were primitive trails that were covered by German fires. Mount de la Difensa (960 meters high) formed the protruding corner of the hill mass, with Mount Camino (963 meters) to the south and Mount de la Remetanea (907 meters) to the west. Difensa's slope progressively ascended, finally terminating in perpendicular cliffs 200 feet high.

Weather in December included cold rain, freezing rain, and snow. Temperatures hovered around freezing.

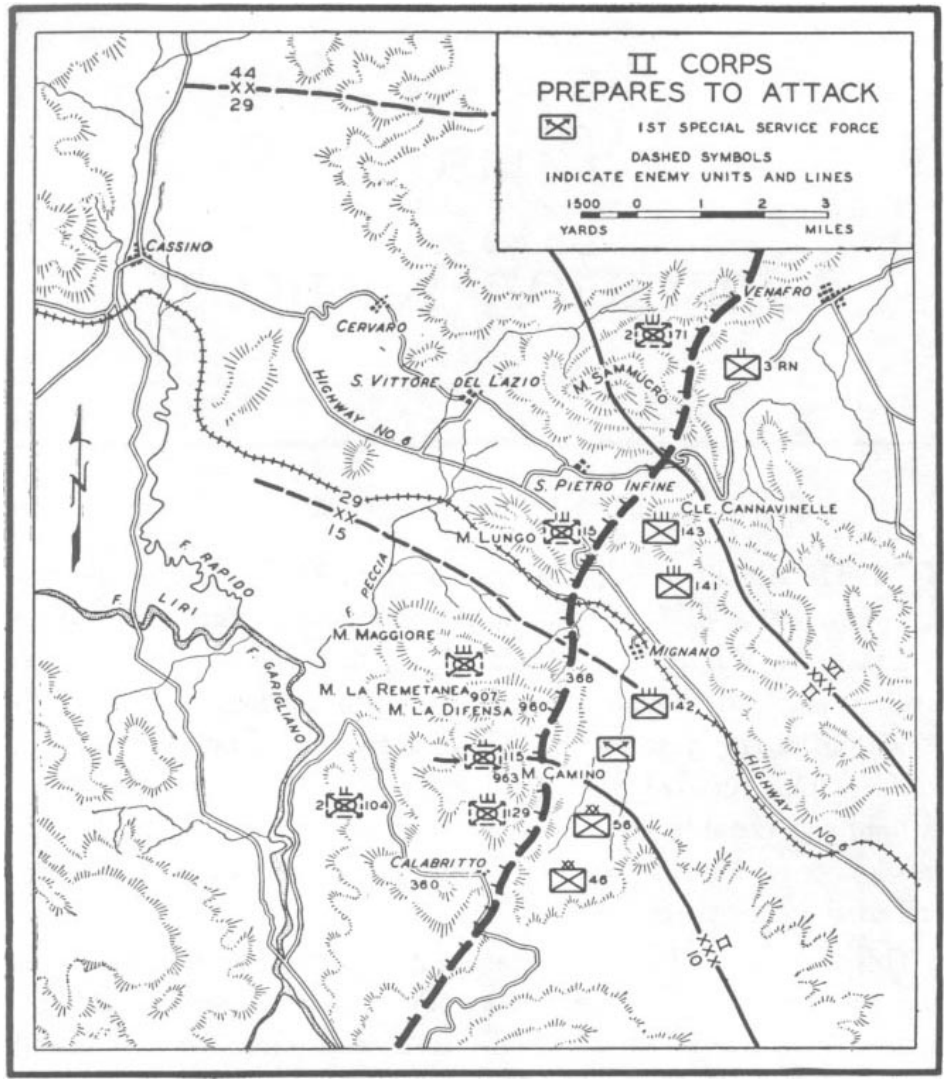
Units:

The original concept behind the FSSF was to form a commando style unit of specially selected men capable of performing raids on Norwegian industry that would thus draw German units away from other fronts. Both Canadian and American officers and enlisted men made up the unit. Three regiments of six hundred men each plus a six hundred-man service battalion made up the "Force." The FSSF spent its first 9 months of existence training in the Rocky Mountains of Montana and in Vermont. Towards the end of the FSSF's training period army staff scrapped the Norwegian raid concept, and after participating in the unopposed landings on the Aleutian island of Kiska the FSSF left for the Mediterranean for use as a deep reconnaissance and raid asset.

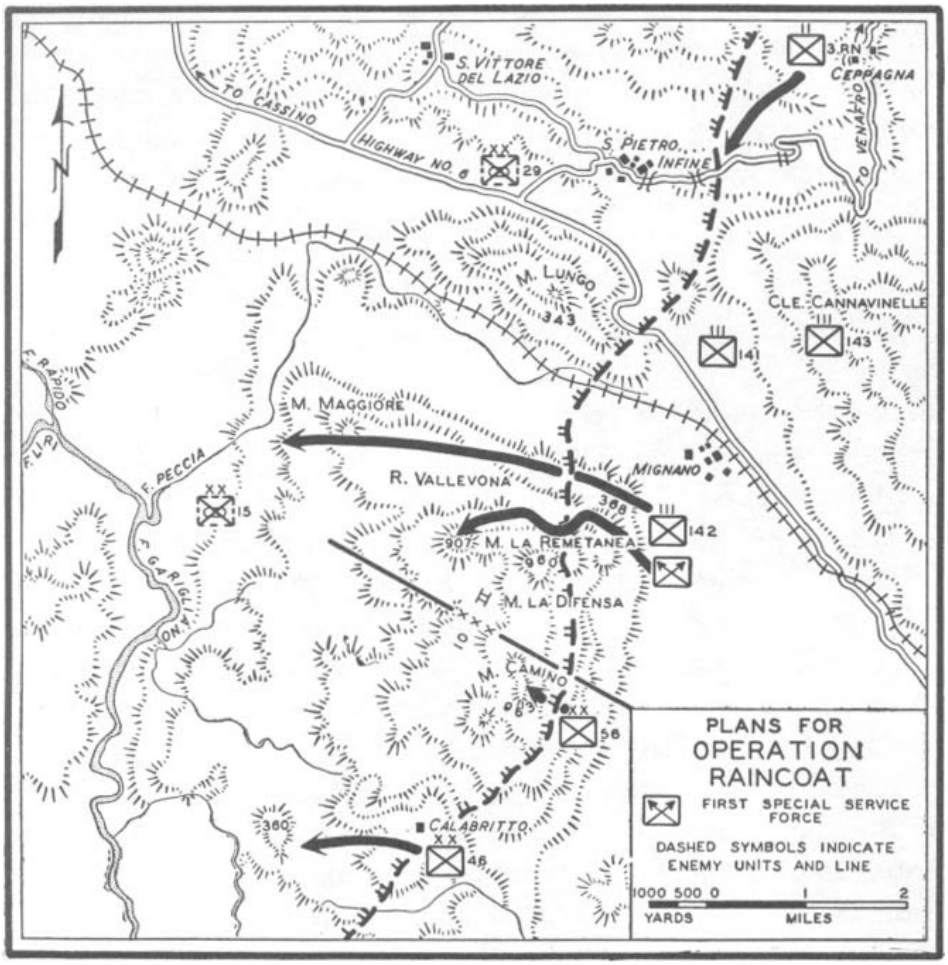
The 3rd Bn 104th Panzergrenadier Regiment, half of the 3rd Bn, 129th Panzergrenadier Regiment, and the 115th Reconnaissance Battalion defended the Camino hill mass from well planned and prepared positions with excellent cover and fields of fire. All three were tough, veteran units with good reputations.

Operations:

The new Fifth Army plan to take the Mount Camino mass had three components. General Mark Clark directed the X Corps to attack Camino in the south and directed the II Corps, with the FSSF attached, to capture Mount de la Difensa and Mount Maggiore in separate, but simultaneous, attacks. The II Corps commander assigned the FSSF to the 36th Division. All attacks would be preceded by several days of heavy air and artillery bombardments.



The plan caught the Germans off guard. Not expecting the Fifth Army to try to storm the heights a second time, they anticipated a push by armor-heavy forces through the Mignano Gap, and they positioned their reserves accordingly. Later, the Germans complimented the creators of the new plan for its cleverness.



The FSSF was attached to the 36th Division form II Corps for the attack. The Force's mission was to attack and seize Difensa on the morning of 3 December and to continue to attack, on order, to seize Remetanea. Major General walker, the 36th Division commander, retained the 1st Regiment as division reserve. Frederick assigned the assault mission to the 2nd Regiment and ordered the 3rd Regiment to position its 1st Battalion at the 600-foot level on the mountain to be the FSSF reserve. The 2nd and 3rd Battalions, 3rd Regiment, were ordered to assist the Service Battalion in the re-supply of the assault units.

Frederick also decided to attack the mountain at night from the northeast side, straight up its sheer face. He knew from the experiences of the 7th Infantry that the enemy had the other approaches from the north and southeast well covered by observation, fires, and mines. He felt confident in the abilities of his men to negotiate the difficult climb, and he believed that the approach at night, in a direction assumed impossible, would achieve surprise both in location and time. Surprise was essential to his plan. He also counted on heavy air and artillery bombardments to keep the German's heads down and focus their attention on the conventional approaches to the summit. This plan, if executed properly, promised the capture of the peak by shock, rather than by a long, drawn-out battle of several days' length.

On the evening of 1 December, the regiments moved out by truck in a light rain from their rearward assembly areas. Dismounting from the trucks, the men of the 2nd Regiment trudged a hard ten miles through cold rain and mud to their pre-assault position about halfway up the mountain. Concealing themselves in ravines and scrub pines, the men waited during the next day, trying to say warm and dry and to rest. Most officers were too busy to sleep, as they sorted out details concerning reconnaissance and supply. Simultaneously, the 1st and 3rd Regiments moved into their designated holding areas.

During the day and night of 2 December, Allied bombers and artillery delivered the heaviest concentration of indirect fires yet seen in western war. Eight hundred twenty pieces of all calibers fired round after round of high explosive, white phosphorus, and smoke on the Camino mass. In a one-hour "serenade," 22,000 rounds from 346 pieces exploded atop Difensa. While the preparation did not cause a great many casualties, it disrupted the German lines of supply to the font, destroyed wire communications, prevented the movement of reserves or shuffling of frontline troops, and limited the fires of German artillery. These strong supporting fires continued from 2 until 10 December and severely hampered the efforts of the Germans to counterattack against the Allied ground forces.

At approximately 1800 on 2 December, the 2nd Regiment began its ascent of Difensa for the assault, with 1st Battalion leading, the 2nd Battalion in trail. As these units moved out, the 1st Battalion, 3rd Regiment, also began its climb to its reserve position at the 600-meter level.

By 2230, the 2nd Regiment reached the base of the Difensa crown. While the bulk of the regiment paused, scouts and rope teams continued up the final 100 to 200 meters to emplace rope ladders. The fog, wind, and freezing rain made for a bitterly cold night. Men huddled together in the darkness to keep warm. Perhaps their main comfort was the sound of the increased intensity of the friendly artillery bombardment that pounded and illuminated the summit.

The units began to move again at 0100. The 1st, 2nd, and 3rd Companies, 1st Battalion, clawed their way up the rope ladders in two hours. From the top of the cliff, it was 350 more yards of steep, rocky slope to the actual peak. So far, the Germans had not detected the presence of the Force, even though several enemy artillery rounds landed sporadically farther down the mountain where the 2nd Battalion was following.

One by one, the companies inched over the cliff and maneuvered into line for the final assault. Occupying the left side of the assault line was 1st Company, with 2nd Company in the center. As 3rd Company moved up to take its position on the right of 2nd Company around 0430 (with 2nd Battalion on the rope ladders), a rock-fall alerted the Germans. Suddenly, the sky was full of flares and German mortar bombs and machine-gun fire began to rake the men of the Force. At this point, the battle quickly deteriorated into a fight by platoon and section leaders. Yet sufficient surprise had been achieved to heighten the Force's chances for success. Moreover the small-unit leaders in the Force had been fully briefed on the overall plan. As the battle fell into their hands, they knew exactly what to do. The Germans were hampered in their resistance by weapons oriented on the wrong lines of fire.

The 1st Company attacked first, supported by its own light mortars and light machine guns. As the sun came up, the company was well within the German defensive position with 2nd and 3rd Companies beginning to close with the enemy from their sectors. The men of the Force conducted fire and maneuver against each German strongpoint, suppressing it with fire, while other FSSF elements closed in on the enemy's flanks and rear. The unit leaders including Colonel Frederick, were in the midst of the fight, leading, directing, and dying. As bits of fog blew away, elements of the Force found themselves suddenly exposed to snipers or enemy fighting positions. By 0700, the entire battalion was on the summit, and some Germans began to surrender while their comrades streamed away to the west towards Remetanea. In under three hours, the 1st Battalion, 2nd Regiment, had taken an objective that had kept the 3rd Infantry Division at bay for ten days.

Low ammunition stocks prevented the regiment from continuing the attack to Remetanea. In addition, the men were exhausted. The 2nd Battalion moved up to join the 1st Battalion, but Colonel Frederick held up any further advance until ammunition, water rations, blankets, and litters could be packed up the mountain – a six-hour exercise at best. In the interim, the battalions on Difensa reorganized and consolidated their positions for an expected counterattack, prepared the wounded for evacuation, cleared out the remaining snipers, established outposts, and pushed a few patrols out to determine the disposition of the enemy defenses along the western ridgeline.

The next five days resembled an exercise in survival. As the trickle of re-supply flowed in by pack board and the prisoners of war and the wounded moved downhill, the weather turned worse. Heavy rain fell steadily, day after day, with few breaks. Wet, cold, exhausted, and beginning to suffer from exposure, the Force confirmed Napoleon's maxim that "the first quality of the soldier is enduring fatigue and privations; valor is only the second."

To make matters worse, the British 56th Division, though attacking valiantly, had not taken the Camino peak and would not do so until the evening of 6 December. As a result, the FSSF had to endure intense mortar and long-range machine-gun fire from Camino as well as Remetanea.

At the bottom of the hill, Colonel Adams coordinated the steady but slow stream of supplies to the top. Mules could not handle the grade or the footing. Every can of water, every ration, every round of ammunition had to be wearily carried up by hand. The entire 3rd Regiment, less one company, was dedicated to assist the Service Battalion in this effort.

Recognizing the limits these conditions imposed on his operation, Frederick decided to postpone his attack against Remetanea until 5 December. When Walker released the 1st Regiment, Frederick called one of its battalions to Difensa to hold the summit so that the 2nd Regiment could attack. On its way over, the 2nd was delayed twenty-four hours and suffered 50 percent casualties in an attack by German artillery that might have been entirely accidental.

From 3 to 5 December, the small forces on the summit continued to feel their way toward Remetanea. Because of the fog and the broken terrain, the fighting assumed no fixed pattern. A temporary break in the fog often found both German and U.S. forces helplessly exposed while they felt their way about the hill mass. At one point, 400 German reinforcements were discovered moving forward for a counterattack. Hastily arranged artillery fires foiled their attempt.

Finally, on 5 December, the 2nd Regiment sent two reinforced battalions down the ridge toward Remetanea in a daylight attack. They were stopped about halfway to the objective by bitter, desperate resistance. The German defense, however, dissolved during the night so that the regiment was able to occupy the peak against light opposition by noon on the 6th. Over the next two days, the FSSF cleared the area they held of isolated German snipers and outposts and tied in on the left with the British and on the right with the 142nd Infantry. Relieved on 9 December, the Force wearily climbed back down the mountain to recuperate. It had suffered 511 casualties: 73 killed, 9 missing, 313 wounded or injured, and 116 incapacitated from exhaustion and exposure.

All Mount de la Difensa copied from Major Scott R. McMichael's A Historical Perspective on Light Infantry

Appendix D: 2003 INFANTRY CONFERENCE SUMMARY

The Infantry Conference was held at Fort Benning, Georgia, from 8-11 September 2003. Representatives from several units to include 3rd ID, 101st, 4th ID, 10th MTN, and 5th Corps (given by LTG Wallace, CAC Cdr), 5th SFG, and the Ranger Regiment briefed their Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF) actions in theater and lessons learned. Below is a summary of the lessons learned. Underlined throughout the summary are recommended focus points to assist units in prioritizing their training plans prior to their deployment to the CENTCOM AOR. The briefings (all in zip format) can be located at the following link: http://www.infantry.army.mil/infantryconference/.

I. Common themes mentioned in all briefs include the following:

1. Doctrine and training provided the basis of success. During both OIF and OEF, flexible, adaptable, disciplined and aggressive leadership at all levels was the most important key to success.

2. Execution of combat missions pairing SF/ODA teams with conventional units such as the 3rd ID/101st/4th ID/10th Mtn has become the norm. Missions are characterized by a condensed planning window; time and place are usually dictated by a local intelligence sources, and normally involve raids/cordon and searches.

3. Basic principles work; master battle drills, apply SOSR, establish base of fire to overwatch all movement, violence of action, apply overwhelming combat power, fight as a combined arms team.

4. Blue Force Tracking (BFT) received high marks from all units in OIF. FRAGOs were received from BFT during long distance tactical convoys, leaders could easily find subordinates in an urban operations environment, and planning and directing via the delivery of free text e-mail messages enhanced situational awareness and helped prevent fratricide.

5. Along with BFT, commanders praised the capabilities of hand-held GPS, PRC-117s, and MBITRs. Numerous opinions were expressed on TACSAT. Most units did not like TACSAT when it was with small bandwidth and single frequency. TACSAT was only effective with Wide-Band TACSAT with "X-wing antenna," which significantly improved communications on the move over long distances.

6. 101st/10th Mtn/Rangers/SFG all emphasized the importance of physical fitness whether in OIF's urban operations environment or OEF's challenging mountains and altitude. The IBA/SAPI plates, although heavy, worked well and received minimal soldier complaints. It stopped 7.62 and saves lives. Most units are attaching the MOLLE pouches directly on the IBA.

7. Marksmanship – OIF units emphasized the importance of CQB, weapons configuration, reflexive fire, shoothouse LFXs, etc. OEF units emphasized KD ranges, snipers, the importance of long-range distance shots, and ensuring proper employment of optics and laser bore-lights.

8. Units across the board were extremely positive about their embedded media experiences. LTG Wallace remarked, "If embedded media is a new standard then we need to train to a new level of media integration."

9. Non-combat soldiers must become more combat-savvy. Units must establish programs to enhance their warrior ethos to include PT, marksmanship, convoy TTPs/combating ambushes, etc. Prior to an

OIF/OEFdeployment, units should train all soldiers not only on the above, but also the following: call for/adjust indirect fire and rotary-wing CAS; cultural awareness; TACSAT/MBITR/HF radio employment; demolitions training; IED and mine awareness; physical fitness- able to adapt to terrain/altitude quickly; detainee handling; combat life-saver (Infantrymen/FA/EN); emergency medical treatment programs (medics); and fieldcraft in a hot/cold/urban environment.

10. On one hand, "Hood of the HUMMWV" and commander-directed single course of action was the norm in planning during OIF. However, units all affirmed the importance of our leader education system and CTCs in regards to planning. One must know doctrinal MDMP in order to know how to conduct condensed, hasty combat mission MDMP. Task Force rehearsals, PCIs are a must. Falcon-View, MCS-Light and Top-scene provided improved map and imagery production capabilities, and paid huge dividends in providing soldiers down to squad level urban operations graphics.

11. Both in OEF and OIF contemporary operating environments (COE), the key to gaining intelligence is the local population and sound targeting principles. Establishing relationships with tribal leaders, government officials, and religious leaders is critical. Companies, Battalion Task Forces and Brigade Combat Teams must have great connectivity, both in combat operations and in SASO, as they pass targets up and down the chain of command.

12. In the SASO environment, FSOs both at Battalion and BCT level, are instrumental in coordinating IO effects and non-lethal targets. The FSO is critical in helping the Battalion and/or BCT staff in integrating the information collection (IO themes, NGO info, etc) and is the key link in patrol debriefing disseminations, NAIs, PIRs and CCIRs. As a side note, most FA Bns in the OIF SASO environment have became maneuver commands to include being assigned a sector, establishing TCPs and patrols, planning and executing CMO projects, etc.

13. In conducting tactical convoys (or "ground tactical convoys – "GACs"), PCIs and rehearsals are critical to success. Every vehicle should have either a tow bar, chain or sling rope for towing capability. During tactical convoys from Kuwait to Baghdad/Mosul, vehicle and personnel accountability is extremely challenging due to the long distances and lack of communications. Every vehicle should have an extra tire with rim, extra POL, fuel, etc.

14. The 5th Corps Commander and other heavy units stressed that fast paced operations early in the campaign made it impossible for our less-maneuverable logistics elements to keep up, much less set, receive, and distribute classes of supply. Additionally, the Army repair parts ordering system did not work in the offense.

15. Much discussion centered on the employment of light/air assault/airborne Battalion scout platoons. Generally scout platoons were not a "mini-LRSD" – commanders ensured the platoon maintained mutual support with their parent maneuver unit based on Medevac, resupply, and extended communications complications. Scout platoons were often employed in OIF as a robust sniper team element, or as a raiding force.

16. Rules of Engagement (ROE) vignette training is critical in ensuring soldiers in the contemporary operational environment (COE) adhere to laws of land warfare.

II. Unit specific points of discussion/lessons learned:

1. **5th CORPS (Briefed by LTG Wallace)**

a. Move rapidly to gain positional advantage, strike hard at the enemy wherever he was, control the rear area to the extent necessary for future operations, build logistics power, then do it again.

b. We must continue to emphasize Heavy/Light operations and urban operations in our home-based training. In fact, let's incorporate even more of the urban battlefield into BCTP and all CTCs.

c. An asymmetric enemy cannot be templated using traditional IPB --the COE is on target.

d. The value of small arms master gunner programs was clearly demonstrated. But we need to review in detail the heavy force gunnery qualification tables in order to adjust to the COE threat where necessary.

e. Call for fire is the norm -- all must be well trained to use indirect fire and CAS including those in the REAR area. Precision CAS was very effective in an urban environment – training must be made available at lower echelons to better leverage this capability. Use of Corps CAS, killbox techniques, and USAF SCAR platforms were effective in extending the reach of Corps Fires.

f. We must find a way to resource LNO teams within our TOEs. Marines provided 11 outstanding LNOs to the 5th Corps staff.

g. CSS units / leaders must be trained to operate, and to leverage, ITV assets.

h. Intratheater airlift was overly bureaucratic, resulting in no value added during key combat operations.

i. Our Battle command information systems must be standard across the whole Army and must also be Joint – there is no room for another 10 years of getting there.

j. Dedicated 25 Khz Single Channel SATCOM proved to be the only way to provide reliable C2 at Division and Corps level.

4. **3RD INFANTRY DIVISION**

a. Mechanized forces provided excellent combat capability on initial entry -- tanks, infantry, artillery, engineers and CAS when combined are unstoppable. The combined arms force was dominant, lethal and survivable in urban combat.

b. MOUT= 360 degree threat. CS and CSS assets must be hardened. Must train with multiple threats and terrain, and must train BOS over extended distances.

c. Our artillery worked. Through 9 April 03, DIVARTY had expended the following: 13,923 155mm projectiles, 121 SADARM, 794 rockets and 6 ATACMs; 657 Total 155mm Missions; and 116 Total MLRS Missions.

d. CAS worked extremely well, and joint fires equaled success. 924 CAS sorties were flown. We need to ensure Divisions/BCTs receive the "No strike list" before LD. The OH-58 was excellent operating in an urban environment.

e. UAVs are a must at DIV and BCT level. HUMINT capability must be expanded.

f. The engineers participated in the following: emplaced a 600m of bridge; seizure of seven key Iraqi bridges; and an RB-15 assault crossing on OBJ PEACH. It was evident the combat engineers need new equipment.

g. Troop to task ratio, in battle and in SASO, was challenging. The Division secured LOCs that extended hundreds of miles. This required every soldier to be a rifleman and harden assets. The Division battlespace exceeded 16,000 sq/km – we need to examine Force XXI MTOE and its impact on the limitations of available security forces.

h. The conduct of RSOI / APS is a commanders' business requiring intense management. APS operational readiness determined success. We found that logistics was the most challenging operation conducted on the battlefield. Just-in-time logistics was not sufficient to support the tip of the spear.

i. BCTs and Battalion Task Forces executed with smaller, more mobile Command Posts. The MSE is not an on-the-move system. With FBCB2 and BFT, possessing a common relevant picture was critical to our success, especially when operating in a non-contiguous battle space.

j. Leaders and soldiers must have the discipline to switch from combat to SASO and back.

5. 101ST AIRBORNE DIVISION (AIR ASSAULT)

a. Live fire training in Kuwait prior to crossing the LD, to include individual marksmanship, quick fire techniques, mounted / dismounted battle drills, and squad/platoon CALFEXs, all proved a great way to acclimate from a woodlawn environment to the desert. Using Strike Hold lubricant enhanced weapon maintenance in the desert. Aircrew environmental training in Kuwait, to include NVG crew certifications, desert navigation, LZ / PZ selection, and dust abatement, also proved helpful during OIF combat air assaults.

b. Training MUST continue in Theater even during extended SASO operations. Marksmanship training, convoy LFXs, Walk & Shoot exercises, Air Assault School, armorers course, etc., are all ongoing in Northern Iraq.

c. Stability operations extend unit resources. Sound decision-making and empowerment of junior leaders to make decisions are essential to success under stressful and often ambiguous conditions.

d. Attack Aviation -- AH-64s, coupled with CAS and ATACMS, and linked with JSTARS, EA-6s, and HARM shooters, were very successful conducting daylight armed reconnaissance, night deep attacks, and over the shoulder operations. FARPs must be positioned well forward on the battlefield; their emplacement should be tactical, combined arms operations. Kiowa Warriors are not only good observation platforms especially over cities; but when combined with CAS and artillery, they are especially lethal.

e. Artillery mattered: the 101st fired more than 3500 artillery rounds, 114 ATACMS and 135 CAS sorties. "Walk and Shoot" exercises before deployment set the conditions for successful employment of fire support and CCA. OH 58s were the best platform for CCA and reconnaissance/fire support observer in the urban operations environment. Q36 was great for mortar location. QRF and OH-58 drill (just like JRTC) was the best TTP to deal with mortars

f. Recurring tasks for Sappers during combat operations included: conducting the initial breach of wire or mined obstacle; breaching compound walls; breaching/creating alternate entry points in buildings; destroying ammunition caches.

g. Recurring tasks for Sappers during SASO operations include: assessing and destroying UXOs, clearing routes, and consolidating and destroying caches.

h. Bridge the training gap between EOD and sappers by conducting pre-deployment training on U.S. and enemy munitions and safe ways to destroy them.

i. The M-GATOR is a huge success. Possessing a trailer to haul the Gator over long distances is a must. We found it an excellent aid and litter team asset – load plan 2 rigid litters on each one.

j. Medical treatment/triage/evacuation – Position the ATLS well forward, and organize with Gators to carry trauma kits, water and litters. Casualties will generally be in a concentrated area, rather than dispersed across your AO. Many will have traumatic blast type injuries, requiring immediate advanced care. Don't keep the surgeon and PA in the Aid Station. Additionally, the medical trauma facility that Fort Campbell opened up about six months prior to the Division's IEF deployment has proved extremely beneficial to the combat medics and has saved lives. The center, which has life-like injured dummies and environmental controls, which include light/darkness capability and combat simulations, basically replicate the trauma facilities and the POI within the Ranger Regiment.

k. ULLS – must establish CASI wireless during RSOI to ensure connectivity, etc., ASAP.

l. Hardening and "dust-proofing" of automation equipment is essential to ensure its survivability during desert operations.

m. A Friendly TTP FOR HOSTILE CROWDS includes the following:

- Position the local police around the exterior perimeter.
- Meet with leaders before the demonstration, and also meet with the crowd enroute to their destination.
- Reinforce friendly unit to show strength.
- Pre-position non-lethal munitions and forces in riot control (keep soldiers in riot gear out of sight as a reserve).
- Position your snipers on top of roofs to provide overwatch (out of sight).
- Alert a ground and air QRF. Also, use attack helicopters (especially OH-58Ds) to intimidate the crowd.
- Use Combat Camera to gather video and photos of the demonstration. Position snatch and grab teams to secure demonstration agitators.
- Use Tactical PSYOP Teams (TPT) loudspeakers to disrupt demonstration C2 and communicate with the crowd.
- Control the crowd -- concertina can be used both defensively and offensively to position or move the crowd.
- Identify the demonstration ringleaders and separate them from the crowd; Discuss the issues with the leaders away from the crowd; and direct leaders to move the crowd away from the barriers as a pre-condition for discussions.
- Lethal force is an absolute last resort used only when all of methods of self defense, to include taking shelter, have been employed.

n. Steps to defeat the IED threat include:

- LET THEM KNOW THAT YOU ARE READY -- the enemy is looking for an easy mark, he wants to get away -- show him that you are not an easy target.
- VEHICLE DISPERSION -- 75 m to 100 m or greater, makes it more difficult to correctly target the convoy – this results in late or early detonation and the likelihood that the enemy will not get away. KNOW THE INDICATORS -- Bags, piles of rocks, piles of dirt in or beside the road -- If you don't like what you see, trust your instinct, stop, turn around,

and go another way, and then report observation through the chain of command and let the experts check it out.

- VARY THE ROUTE AND TIME AND SPEED OF TRAVEL -- we know the enemy is watching us and attempting to determine our patterns -- make every attempt to vary this pattern, never take the same route twice in two days (the enemy placed the IED there for a reason, and he is targeting you!).
- ALWAYS HAVE FRONT AND REAR SECURITY OUT -- Roll up or remove HMMWV/FMTV canvas, so that you can see behind you, and pay attention to where you are going -- Determine who has what security responsibilities before you move, face out during movement and constantly scan assigned sectors of fire (Many ambushes are initiated with an RPG shot from the rear).
- REPORT, SECURE AND REDUCE CACHE SITES -- The enemy is drawing his supply of explosives from somewhere.
- TRAVEL IN CONVOYS OF 3 OR MORE VEHICLES -- The enemy may not detonate the IED if he believes that he will be caught -- It is very difficult to successfully attack 3 or more vehicles if they are widely dispersed.
- VEHICLE MODIFICATIONS -- Install machinegun mounts and outward facing seats.
- SANDBAG VEHICLES, WEAR IBA AND HELMETS -- these actions have saved lives.

6. 4TH INFANTRY DIVISION

a. 4th ID's civil-military operations have been characterized by the following: working on 358 projects; re-established power capability throughout province; submitted over $13 million in projects for reconstruction); re-established benzene and LPG distribution operations; over $2.5 million in funding approved for school projects; schools re-opened and end of school year exams completed as of 30 July; Local and NGO Food Distribution System operational (8 of 10 Silos accepting grain ~ over $95k in projects approved for repairs); re-established Medical Distribution System and Preventive Medicine Program (27 of 28 Clinics and 174 of 178 hospitals operational ~ 13 adopt-a-hospital and $450k in projects approved / completed); 5,500 of 11,000 Police Force hired / starting training and receiving new equipment and uniforms ($43 million funding requested in support of program); 42 of 46 Banks opened (July Payroll being distributed to Civil Employees); Repairing Water Treatment Plants and Sewage systems ($3.8 million in project funding requested); IO / NGOs operating within Division AO (35 NGOs, $3.2 million projects in work). Welcome to SASO!

b. The BRT/Battalion Scouts, UAV, and Attack Aviation make a lethal sensor to shooter triad. Tanks are excellent for lazing targets for snipers.

c. The Division does not enough infantry once the armored formation battle is complete. Troop to task ratios challenging -- security of electrical plants, refineries, food distribution, hospitals and gas stations have a high priority.

d. The center of gravity is the cities – they are the basic provider of services and goods. Military police, engineers and infantry operate best in urban operations. Route clearance has become paramount as IED and mine strikes have increased – sandbags and kevlar blankets always welcome.

e. Establishing a positive relationship with tribal leaders is critical to gaining intelligence. Pattern analysis pays big dividends on where to position snipers and QRF forces [usually in poor neighborhoods]. Discovering a neighborhood sector that has little to no terrorist activity frequently led to the home of a terrorist/resistance financier. Often times we discovered weapons and US currency in their back yard. Also, ensure to emplace proper illumination markings on your locally established police forces to assist in identifying them during hours of darkness operations.

f. Attack aviation needs to be on the battalion/Task Force radio frequency for command and control purposes and interaction with company commanders fighting the battle.

g. Engineers were important for reduction of stockpiled weapons and ammunition. Shortage of EOD personnel forced Engineers to perform this critical task. Ammunition inventory, tracking, and monitoring are critical, along with ensuring all ASPs are guarded.

h. PLL and ASL must be robust – theater level parts distribution is broken. Bring plenty of fan belts, tires, generators, control boxes and batteries (don't count on getting them through the system anytime soon). Don't forget to bring extra track shoes for your M113s, Bradleys, and Tanks.

7. 10TH MOUNTAIN DIVISION

a. CTCs are relevant -- fighting Anti-Coalition Militants (ACM) similar to CLF at JRTC; we must sustain the Contemporary Operating Environment (COE) at CTCs. Ensure to integrate mortars, CAS, CQB and Trench/Bunker during SQD/PLT LFXs in preparation for OEF.

b. Air assault training, aerial re-supply, sling-load operations are critical for pre-deployment training. Combat operations are consistently at extended distances—non-linear/non-contiguous battlefield; still no ground LOC. Rotary aviation is Achilles heel—requires intensive management.

c. Mission specific operations in OEF include sensitive site exploitation and cordon & searches. It is critical to integrate logistical support for units spread over long distances. OEF-bound units should train to fight and operate at high altitudes in mountainous terrain.

d. Recommended MTOE changes for Light Infantry BNs include adding the following: Weapons squads; ammunition bearers for machine-gun teams (3 pax/gun); a sniper section (10 pax—3 sniper teams with section leader); a Defense Advanced Global Positioning System Receiver (DAGR) to team level; and MGATORs down to company level.

e. Critical weapon highlights during OEF include: Barret 50 cals are best for extreme ranges in Afghanistan; mortars are very effective—biggest organic killers; shoulder-launched, Multi-purpose, Assault Weapon-Disposable (SMAW-D) easier to carry and hits harder than AT-4; and soldier confidence in organic small arms and crew served weapons is noticeable.

f. Rapid Fielding Initiative (RFI) met many of the materiel shortcomings identified during OEF 1. Some requirements that are not being met by current RFI/Army acquisitions include: Light weight Army approved hand-held GPS (DAGR); light weight, up to date laser range finder to replace the Mini-Eyesafe Laser Infrared Observation Set (MELIOS); standardized rapid wall breaching kit; door breaching munitions; more Up-Armored HMMWVs; establishing pre-positioned equipment and vehicles to drastically reduce deployment requirements.

g. Find, fix, and finish—in OEF it is challenging finding and fixing the enemy (massing combat power quickly). Active reconnaissance/counter-reconnaissance is critical, especially in regards to denying the re-entry of threat across Afghanistan/Pakistan border.

h. Units must sustain the initiative – force enemy to react to multiple dilemmas simultaneously. Also sustain unpredictability—show multiple sets and vary routines.

i. Intelligence drives operations—requires good human intelligence corroborated by other reliable sources.

j. FSO must be able to call and adjust CAS…. not just the ALOs.

k. When an objective is taken, don't consolidate and reorganize…. immediately start SASO.

8. 5TH SPECIAL FORCES GROUP

a. Intense marksmanship training – urban operations environment (especially for OIF preparation; long range KD range for OEF). Lots of ammo expended -- 9mm, 5.56 and 7.62.

b. Most communications Battalion to higher via siprnet and BFT. TACSAT was unsatisfactory – not enough bandwidth. Most unclassified information passed via Iridium SATCOM cellular. SF continues to look for improved distant collaborative planning tools.

c. Teams must remain adaptive and flexible. Conducting joint operations with conventional forces on a daily basis. Florida National Guard was attached to SFG during OIF – FL Nat Guard – they provided excellent security and also assisted SF crossing the Kuwaiti/Iraqi berm. Numerous raids/cordon and searches conducted with conventional forces (3rd ID/4th ID/101st) on a daily basis. Conducted in condensed/hasty MDMP fashion.

d. SF must have physically & mentally tough soldiers. OEF validated tough selection criteria.

e. Humans are more important than hardware. Quality is better than Quantity. Special Operations Forces cannot be mass produced. Competent Special Operations Forces cannot be created after emergencies occur.

f. Cannot emphasize more the importance of battle drills, combat lifesaver and medical training, marksmanship, and physical fitness. Training on direct action skills and TTPs was critical to OIF and OEF success. Additionally, validated javelin in N. Iraq, and the modifications on their LMTV were beneficial in over ground movement in OIF AO.

9. 75TH RANGER REGIMENT

a. The Rangers emphasized many of the same comments above, especially joint/SF/conventional integration, and flexible, fast MDMP.

b. The Rangers emphasized the importance of physical fitness, both in mountainous/high altitude terrain, and in the urban environment.

c. Ensuring a robust number of combat lifesavers throughout the ranger teams/units was critical to success.

d. Marksmanship, as mentioned by 5th SFG, was mastered in the urban operations environment. Again, the majority of Ranger trends/lessons learned have been mentioned above.

III. CONCLUSION. The above summary still does not do entire justice to the outstanding briefings the Divisions, 5th SFC and the Ranger Regiment prepared for the Infantry Conference. Special recognition goes to the Division/Group/Regiment Commanders and their respective G3/S3s who organized and put these briefings together. Additionally, along with the unit briefings, small focus groups of Fort Benning instructors, doctrine writers and soldiers and leaders from the field came together to discuss numerous tactical subjects. The following small group discussion results can be downloaded at this link: http://www.infantry.army.mil/infantryconference/. Fires in the Close Fight; Urban Warfighting; Infantry SASO TTPs; and Leader (OES/NCOES) Education and Development.

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